Appendix F SWMU/AOC Background Information

INTRODUCTION

As detailed in the *Soil Pathway Analysis Report* (OBG, 2017), maximum soil concentrations for the SWMUs were compared to background concentrations and the current USEPA Resident Soil Regional Screening Levels (RSLs) (USEPA Regional Screening Levels - Resident [USEPA, May 2016]) as an initial step in identifying constituents of potential concern (COPCs). As described in the *Soil Pathway Analysis Report*, the COPC data from each SWMU/AOC were compared against background values and residential RSLs. SWMUs/AOCs with results that were at or below the background values and residential RSLs were determined to warrant no further action. This appendix focuses on the remaining SWMUs/AOCs (*i.e.*, the units with concentrations above background values and resident RSLs). Summary information on SWMU 118 supporting no further action is also included in this appendix. Analytical results are summarized in tables with criteria for specific SWMUs within this appendix: SWMU-8/12, SWMU-18, SWMU-20, SWMU 21/22 and SWMU-118.

For each COPC, risk-based soil corrective measures objectives (CMOs) were calculated for the industrial use scenario, and for potential onsite receptors under both current and reasonably anticipated future land use. The CMOs were calculated using current USEPA risk assessment guidance and conservative assumptions regarding potential exposure. The development of CMOs considers the relationships between land use patterns, chemical source areas, and human exposure pathways.

Given the Facility security measures and access restrictions, existing exposure controls, and highly active manufacturing operations, the recommended corrective measures for areas of impacted soils are based on a combination of institutional and engineering controls. An *Institutional and Engineering Controls Plan* (I&EC Plan, OBG 2017) was developed to identify the range of institutional and engineering controls and provide guidelines for their implementation. The SWMUs/AOCs and their recommended institutional and engineering controls are summarized in **Table F-1**. The approach used in the recommendation of institutional and engineering controls includes:

- SWMUs/AOCs with COPC concentrations above the Resident Soil RSLs and at or below the CMOs are
 recommended for continued Facility management under the non-residential use scenario. The restrictions of
 these units will be recorded in an environmental covenant.
- SWMUs/AOCs with COPC soil concentrations greater than CMOs are recommended for the same measures, plus cover systems comprised of pavement, concrete, clean fill, or overlying structures. Requirements for cover systems will be formalized in an environmental covenant.

The general limits of each area are shown for the Facility in **Figure F-1**. This Appendix includes a summary of background information, RFI results and recent risk screening of data for each SWMU/AOC retained for the application of institutional and engineering controls. A figure for each SWMU/AOC is also included showing the limits of the restricted area to be used as a basis for metes and bounds surveying, and filing of a deed notice and environmental covenant.

The limits of the restricted area for each SWMU/AOC were based upon the above-described approach and review of information provided in the *RFI Report* (OBG, 1995), available facility records, and historical aerial photographs for those SWMUs/AOCs located outside buildings (either historically or at present). Additional assumptions include:

- Limits of engineering control were based on soil CMOs developed during the CMS and available soil analytical data.
- No excavation would be conducted deeper than 12 feet below ground (fbg), based on facility information and risk assessment practices.
- Site-wide groundwater use is restricted.

Metals identified as COPCs and their relationship to natural background are discussed for each individual SWMU/AOC in this Appendix. As outlined in the *Soil Pathway Analysis Report* (OBG, 2017), concentrations of



metals identified as COPCs were further evaluated with respect to background soil concentrations using a report developed by the Ohio Environmental Protection Agency (Ohio EPA) entitled *Evaluation of Background Metal Soil Concentrations in Hamilton County - Cincinnati Area* (Ohio EPA, 2015). In instances where certain metals (*i.e.*, antimony, cobalt, manganese) were not addressed in the 2015 Ohio EPA report, background data were evaluated based on a variety of sources documenting the distribution of natural background concentrations in soils including:

- Cox, C.A. and G.H. Colvin, 1996. Evaluation of Background Metal Concentrations in Ohio Soils. Submitted to Ohio EPA. June 1996.
- Shacklette, H.T. and J.G. Boerngen, 1984. Element Concentrations in Soils and Other Surficial Materials of the Conterminous United States. U.S. Geological Survey Professional Paper 1270.

SWMUs/AOCs that were identified for No Further Action during the screening process outlined in the *Soil Pathway Analysis Report* (OBG, 2017) are identified below, along with the reference to information included in the *RFI Report*:

		RFI Section 2.1.1	RFI Section 4.5.5
42	Former Chip Loading Area	p. 15	p. 67
61/67	Underground Waste Oil/Fuel Storage Tank 304-7	p. 16	Section 4.5.4; p. 62
86	Oil/Water Separator 301-2	p. 18	p. 70
95	Oil/Water Separator 500-2	p. 18	p. 71
100	Oil/Water Separator 707-1	p. 18	p. 72
118	Process Sewer System	p. 20	p. 74
122	Stormwater Pumphouse 422	p. 21	p. 76
123	Stormwater Pumphouse 423	p. 21	p. 77

Table F-1 Summary of SWMUs/AOCs Identified for No Further Action and SWMU Management Controls **GE Aviation - Evendale, Ohio**

		RFI				
SWMU Number	Unit Name	Results Above Resident Soil RSLs ¹	Retained Metals Above Background ²	Recommended Further Action ³	Cover Materials	Action Category
8/12	Temporary Drum Storage Area (Former Bldg. 509)/Drum Crusher Unit	TCE, VC, benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, indeno[1,2,3- cd]pyrene, TPH, PCBs, As, Co	Co	CMS	Covered with concrete	В
14	Battery Storage Area	As, Cd, CN, Co	Cd, Co	CMS	Covered with asphalt	А
16	Weigh Station Sump	TPH, As	As	CMS	Covered with concrete	В
17	Reading Road Landfill	TPH, As, Co	As, Co	CMS	Covered with vegetation	А
18	Sludge Basin Landfill	Naphthalene, TPH, As	As	CMS	Covered with vegetation	В
19	East Landfarm	As, Mn	Mn	CMS	Covered with vegetation	А
20	Former North Landfarm	Benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, indeno[1,2,3- cd]pyrene, As, Mn, TPH	Mn	CMS	Covered with vegetation	А
21/22	Former 508 Sludge Basin	TCE, VC, benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, dibenz[a,h]anthracene, indeno[1,2,3-cd]pyrene, TPH, PCBs, As, Cd, Co, Cu, Ni, Sb, CN	Ni ⁴ , Sb ⁴ , Cd, Co, Cu	CMS	Small portion covered with concrete, remainder covered with gravel	В
27/28	Former Lime Precipitate Basins 1 and 2	As	As	CMS	Covered with vegetation	А
29	Lime Precipitate Basin 3	TPH, As, Mn, V	Mn, V	CMS	Covered with vegetation	А
31	Lime Precipitate Basin 5	TPH, As	None	CMS	Covered with vegetation	А
42	Former Chip Loading Area		NA	NFA	Covered with gravel	С
61/67	Underground Waste Oil/Fuel Storage Tank 304-7		NA	NFA	Covered with concrete	С
79	Former Bldg. 800 Wastewater Pretreatment System	As, Cd, Co	Cd, Co	CMS	Covered by Bldg 800	А
86	Oil/Water Separator 301-2	As	None	NFA	Covered with concrete	С
87/88	Oil/Water Separators 303-1 and 303-3	TPH, PCBs, As	None	CMS	Covered with concrete	А
93/94	Oil/Water Separator 500-1E and 500-1W	TPH, As	None	CMS	Covered by building & concrete	А
95	Oil/Water Separator 500-2	As	None	NFA	Covered with concrete	С
98/99	Oil/Water Separators 703-1E and 703-1W	TPH, As	None	CMS	Covered with concrete	А
100	Oil/Water Separator 707-1	As	None	NFA	Covered by building & concrete	С
118	Process Sewer System - Sanitary Sewer	PCBs	NA	NFA	Sitewide	С
122	Stormwater Pumphouse 422	As	None	NFA	Covered by Building	С
123	Stormwater Pumphouse 423	As	None	NFA	Covered by building & concrete	С
124	Stormwater Pumphouse 506	TPH, As	As	CMS	Covered by Building	А
141	Gravel Media Coalescing Separator	ТРН	NA	CMS	Covered with concrete	В
142	Bldg. 800 Machine Sump (Added 1/16/91)	TPH, As, Co	Со	CMS	Covered by Bldg 800	В
AOC A	Bldg. P Fuel Spill	ТРН	NA	CMS	Primarily covered with concrete	А
AOCs D and I	Bldg. B Fuel Spills No. 1 and No. 2	TPH	NA	CMS	Covered with concrete	В
AOC L	Bldg. 304 Fuel Spill	Naphthalene, TPH	NA	CMS	Covered with concrete	В
AOC W2/SWMUs 62/63	Inactive Underground Product Storage Tanks 417-E M-1; Underground Waste Oil/Fuel Storage Tanks 417-2 and 417-3	ТРН	NA	CMS	Covered with concrete	А
AOC W3/SWMUs 64/68	Inactive Underground Product Storage Tanks 515-1 to 27; Underground Waste Oil/Fuel Storage Tank 505-28	ТРН	NA	CMS	Covered with concrete	В
AOC W4/SWMU 65	Inactive Underground Product Storage Tanks 507- 5,6,13,14; Underground Waste Oil/Fuel Storage Tank 507- 4	ТРН	NA	CMS	Covered with concrete	В
AOC W10/SWMU 72	Inactive Underground Product Storage Tanks D-1 to 5; Waste Fuel Collection Tank D-1	ТРН	NA	CMS	Former building, currently grass surface	В
AOC LD	Bldg. 700 South Loading Dock	TCE	NA	CMS	Covered by building & concrete	А
AOC PST	TCE/TCA Product Storage Tanks	TCE	NA	CMS	Covered with concrete and vegetation	А

(1) Analytical results were compared to USEPA Resident Soil RSLs (May 2016). SWMUs/AOCs shaded in green contain chemicals whose maximum concentrations are below Resident Soil RSLs or have concentrations that are consistent with background levels. See text discussion regarding SWMU 118.

(2) None = Concentrations are below background

(3) CMS - recommended for further evaluation in the Corrective Measures Study

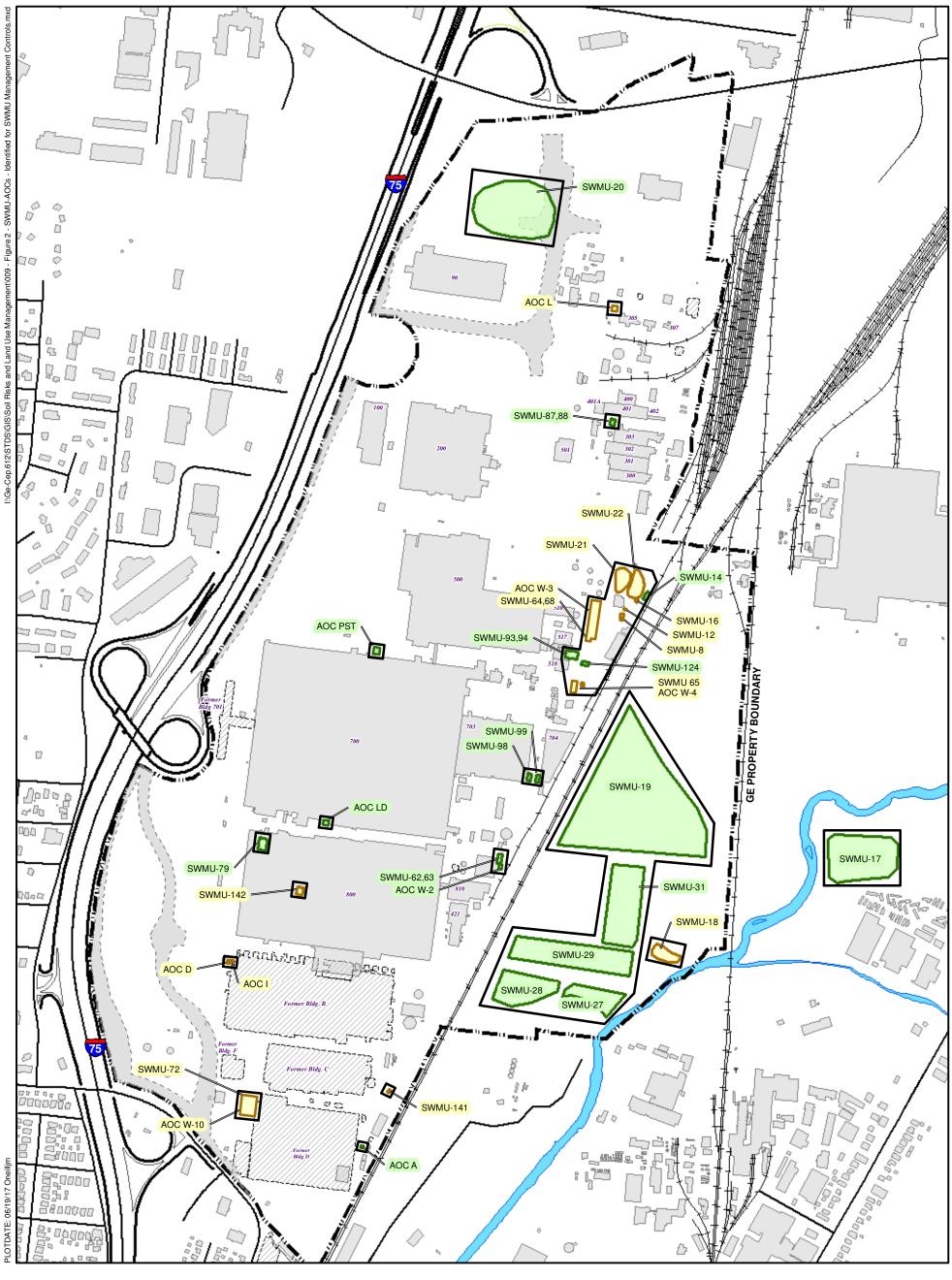
(4) This metal was detected above its Resident Soil RSL and background level, but only at depths beyond those typically available for direct contact by human receptors.

-- Indicates no constituent concentration at or above referenced RSL or background level NA - Not Applicable

Planned Remedial Approach

RSLs < Soil Concentrations <CMOs [Institutional Controls]
Soil Concentrations >CMOs [Institutional and Engineering Controls]
No Further Action (NFA)

FIGURE F-1



LEGEND

EXISTING BUILDING

FORMER BUILDING

800 BUILDING ID

RSLs < SOIL CONCENTRATIONS and <= CMOs

SOIL CONCENTRATIONS > CMOs

APPROXIMATE BOUNDARY OF INSTITUTIONAL AND

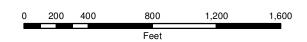
ENGINEERING CONTROLS

ODOT PLAN - RIGHT OF WAY

GE AVIATION EVENDALE, OHIO

SWMUs/AOCs IDENTIFIED FOR SWMU MANAGEMENT CONTROLS





SWMU/AOC ID: SWMU-8 Old Building 509 Storage Area and SWMU-12 Drum Crusher Unit

Location: The Old Building 509 storage area located was northeast of Building 500 and the drum

crusher unit was located in the Scrap Yard Area, east of Building 500 in the northeastern

portion of the GE site.

Description: SWMU-8 was formerly used for drum storage and waste oil drum transfer in the west

central section of the Scrapyard Area from the 1950s to 1991. The SWMU managed spills, runoff and other minor losses from handling and transferring contents between containers. The handled wastes included oil and waste oil containing trichloroethane. Subsurface soil

impacts have been detected at this SWMU.

SWMU-12 contained drum crushing equipment that has been in use since 1987. The equipment is located on a concrete pad and is used to crush 55-gallon drums before they are sent to a drum recycling center. The equipment crushes drums which may contain small

amounts of residuals of various waste constituents at the bottom.

RFI Background: SWMU-8 comprises an approximately 20-ft by 40-ft concrete pad with an 8-inch deep curb.

This unit was undergoing closure processes under the direction of the OEPA Division of Hazardous Waste Management during the RFI investigation. SWMU-8 was investigated in accordance with closure plans approved by the OEPA. Closure activities for the Oil Building 509 area were conducted in 1992. Addendum No. 1 to the closure plan identified methods of inventory removal, concrete cleaning, and soil evaluation and remediation. Although these closure activities were performed, clean closure limits could not be achieved due to influences from other SWMUs. Addendum No. 3 to the Old Building 509 Storage Area Closure Plan (dated July 30, 1992) outlined additional investigations to be performed under

Phase II of the RFI program.

SWMU-12 is approximately 3-ft by 3-ft by 4-ft tall and located on a concrete pad. Soil boring, surface soil sampling, and monitoring well sampling have been conducted to evaluate the potential impacts at this unit.

RFI Results Summary:

Seven soil borings were sampled from the SWMU-8 area (SWMU 8-SB-10, SB-11, SB-12, SB-13, SB-13A, SB-14, and SB-15) and samples analyzed between March and July 1994. Subsurface soils analytical results indicate that TCE, vinyl chloride, PCBs, TPH, cobalt, beryllium, and arsenic were detected greater than the Region V Data Quality Levels (DQLs) from July 1994.

Groundwater sampled from the Geoprobe sampler was analyzed as sample 509 Area Water. The analytical results indicated that 1,1-DCA was detected at 6 μ g/kg, which was below Region V DQLs.

Four soil borings (12-SB-1, 12-SB-3, 8/12-SB-13A, and 8/12-SB-14) were collected in the vicinity of SWMU-12 and analyzed between March and July 1994. Soil boring SWMU12 SB-1 was initiated in the SWMU area, but was sealed when an apparent saturation of unknown petroleum products was encountered 10 to 12 feet below grade. Borings SWMU 8/12-SB-13A and 8/12-SB-14 are also associated with the adjacent Old Building 509 Area SWMU (SWMU 8).

Subsurface soils analytical results indicate detected analyte concentrations ranged from 0.02 to 22 mg/kg for TCE, from 0.89 to 390 mg/kg for PCBs, and from 0.64 to 8.9 mg/kg for SVOCs. Laboratory sample dilution was necessary due to matrix interferences resulting in elevated detection limits for some VOCs. Concentrations of the following analytes were also detected: acetone (0.3 mg/kg), benzene (0.073 mg/kg), toluene (0.09 mg/kg), xylene (0.15 mg/kg), 1,1,1-TCA (0.006 to 15 mg/kg), and TCE (0.001 to 0.058 mg/kg). Cobalt, beryllium,



and arsenic were detected greater than the Region V Data Quality Levels (DQLs) for soil and water from July 1994; however, it may be noted that beryllium did not exceed calculated background levels.

Surface soil samples analyses indicated the presence of PCE (3.6 mg/kg), toluene (3.1 mg/kg), xylene (12 mg/kg), 1,1,1-trichloroethane (300 mg/kg), TPH (12,000 to 46,000 mg/kg), and PCBs (85 mg/kg). Arsenic and cobalt were detected at 4.7 mg/kg and 3.5 mg/kg, respectively.

Groundwater retrieved from the Geoprobe sampler was analyzed as sample "509 Area Water". The analytical results indicated that 1,1-DCA was detected at 6 μ g/kg, which was below Region V DQLs.

CMS Soil Pathway Summary:

The results of the CMS for this SWMU indicated soil analytical results are greater than the CMO for TPH (1,213 mg/kg) for seven soil samples collected [SWMU 12-SB 13A (0-2 fbg) of 4,800 mg/kg, SWMU 8/12 SB13A (12-14 fbg) of 2,000 mg/kg, SWMU 8/12 SB14 (0-2 fbg of 8,600 mg/kg, SWMU8/12-SB14A (4-6 fbg) of 1,600 mg/kg, SWMU 12-SB1 (2-4 fbg) of 18,000 mg/kg, SWMU 12-SS-1-92 of 46,000 mg/kg, and SWMU 12-SS-1-94 (0-0.5 fbg) of 12,000 mg/kg.

The results of the CMS indicated soil analytical results for PCBs are greater than the CMO (11.5 mg/kg) for six soil samples collected SWMU8/12 SB13A (4-6 fbg of 410 mg/kg) SWMU 8/12 SB13A (16-18 fbg of 540 mg/kg), SWMU 8/12 SB14 (8-10 fbg of 170 mg/kg), SWMU 8/12-SB14 and (12-14 fbg of 120 mg/kg), and SWMU 12-SB1 (10-12 fbg of 150 mg/kg) and SWMU 12 SB3 (8-10 fbg of 92 mg/kg).

The above results are also greater than the Residential RSLs for TPH [82 mg/kg for TPH (Aromatic Low)]. Additionally, the following samples are greater than the Residential RSLs for TPH:

- SWMU 8/12-SB13A (4-6 fbg) of 410 mg/kg and (16-18 fbg) of 540 mg/kg;
- SWMU8/12-SB14 (8-10 fbg) of 170 mg/kg and (12-14 fbg) of 120 mg/kg;
- SWMU 12-SB1 (10-12 fbg) of 150 mg/kg; and
- SWMU 12-SB3 (8-10 fbg) of 92 mg/kg.

The above results are greater than the Residential RSLs for PCBs (0.24 mg/kg). Additionally, the following samples are greater than the Residential RSL for PCBs:

- SWMU 8-SB10 (0-2 fbg) of 7.4 mg/kg;
- SWMU 8-SB12(0-2 fbg) of 0.63 mg/kg;
- SWMU 8-SB13 depth 4-6 fbg of 3.2 mg/kg.
- SWMU8/12-SB13A (4-6 fbg) of 0.93 mg/kg, (12-14 fbg) of 4.6 mg/kg and (16-18 fbg) of 2.3 mg/kg; and
- SWMU 8/12-SB14 (8-10 fbg) of 0.89 mg/kg and (12-14 fbg of 2.3 mg/kg);

Detections of arsenic are below CMOs, however, each of the samples analyzed for arsenic exhibited detections greater than the Residential RSL (0.68 mg/kg).

Two of these detections of arsenic exhibited concentrations greater than the natural background (12.9 mg/kg) as follows:

- SWMU 8-SB10 (16-18 fbg) of 13.6 mg/kg; and
- SWMU 8/12 SB13A (16-18 fbg) of 18.1 mg/kg.

Detections of cobalt are below CMOs, however, two samples exhibited concentrations greater than the Residential RSLS (23 mg/kg):



 \bullet SWMU 8/12SB14 (0-2 fbg) of 23.1 and (4-6 fbg) of 25.9 mg/kg. These detections of cobalt are within the natural background concentration of 1.1-53.6 mg/kg.

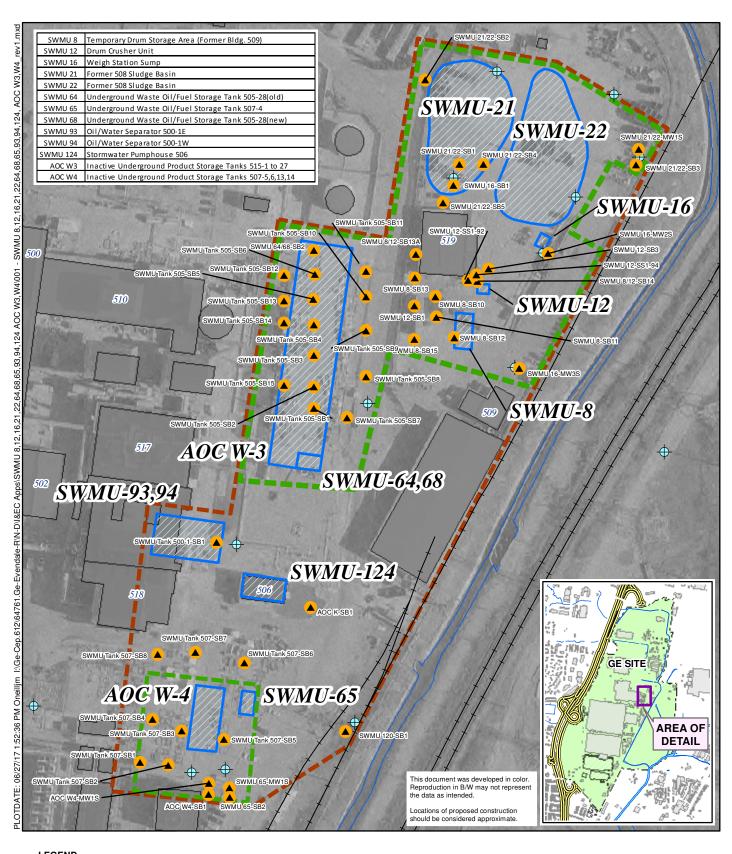
The following VOCs were detected greater than the Residential RSLs:

• TCE (residential RSL is 0.91 mg/kg): at location SWMU 8-SB10 (0-2 fbg) of 8 mg/kg, (4-6 fbg) of 22 mg/kg, and (12-14 fbg) of 3.1 mg/kg.

The following SVOCs were detected greater than the Residential RSLs at soil boring SWMU 12-SB1 (2-4 fbg):

- Benzo(a) anthracene: Residential RSL is 0.15 mg/kg, detection 2.9 mg/kg
- Benzo (a) pyrene: Residential RSL is 0.015 mg/kg, detection 2.1 mg/kg;
- Benzo(b) fluoranthene: Residential RSL is 0.15 mg/kg, detection 4.1 mg/kg; and
- Indeno (1,2,3-cd) pyrene: Residential RSL is 0.15 mg/kg, detection 1.1 mg/kg.

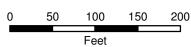
Exposure to COPCs at this SWMU can be managed with a restriction to industrial use and maintenance of a cover system in the area shown on the attached Figure.



Approximate SWMU Area Existing Building Engineering Control Boundary Institutional Control Boundary Monitoring Well A RFI Soil Boring

MULTIPLE SWMUs / AOCs LOCATION MAP

GE EVENDALE, OHIO





June 2017

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Sample ID:	Soil Corrective	Soil	Screening Value/Action	SWMU 8-SB10					S	WMU 8-SB	11			SWMU	8-SB12			SWMU 8-SB13 SWMU 8-SB15							
Sample Date:	Measure Objectives	Background	Level ¹			19	992			1992			1992						1992		1992				
Depth (ft bgs):	(CMOs)	Concentration	USEPA Residential Soil RSLs	0-2	4-6	8-10	12-14	16-18	20-22	0-2	4-6	8-10	0-2	4-6	8-10	12-14	16-18	20-22	2-4	4-6	0-2	4-6	10-12	16-18	20-22
Volatile Organic Compounds																									
1,1,1-Trichloroethane	na	na	8100	23	15		2.3	0.085	0.039	0.033	0.032												6.3		0.012
1,1-Dichloroethane	na	na	3.6		12	0.066	3.3	1.5	0.034		0.077			0.12	0.092	0.033									
1,2-Dichloroethene (total) ²	na	na	160	6.9		0.066	3.3	1.4 0.33	0.034		0.074		0.025	0.12	0.092	0.033	0.027	0.041							
2-Butanone 2-Methylnaphthalene	na na	na na	27000 240						-		-		0.023					0.041							
4-methyl-2-pentanone	na	na	33000			0.082		0.23																	
Acetone	na	na	61000			0.12		0.79	0.11	0.15	0.099	0.066	0.1	0.057	0.052	0.06	0.11	0.14		1.8					
Benzene	na	na	1.2			0.28		0.24	0.089		0.034														
Chlorobenzene	na	na	280												0.007										
Ethylbenzene	na	na	5.8						0.095		0.19	0.12	0.033												
Naphthalene	1,280	na	3.8																						
Tetrachloroethene	na	na	24			0.17	1.4	0.35			0.39	0.061	0.024					0.029		4.8					0.04
Toluene Trichloroethene	na 44.9	na	4900 0.91	8	22	0.17	3.1	0.35			0.39	0.061	0.024					0.029		4.0					
Vinyl chloride	35.9	na na	0.059			0.022		0.59						0.043	0.02										
Xylenes (Total)	na	na	580	3.9	4.8	0.046		0.16	0.36	0.077	0.48	0.33	0.29							1.2					-
Semivolatile Organic Compounds											1				1							1	1		
Acenaphthene	na	na	3600	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Anthracene	na	na	18000	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Benzo(a)anthracene	32.3	na	0.16	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Benzo[a]pyrene	3.23	na	0.016	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Benzo[b]fluoranthene	32.3	na	0.16	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Benzo[g,h,i]perylene	na	na		na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Benzo[k]fluoranthene	na	na	1.6	na na	na na	na na	na na	na na	na na	na na	na na	na na	na na	na na	na na	na na	na na	na na	na na	na na	na na	na na	na na	na na	na na
bis(2-Ethylhexyl)Phthalate	na	na	39	na na	na	na na	na na	na na	na na	na na	na na	na	na na	na	na	na na	na na	na	na na	na na	na na	na na	na na	na na	na na
Chrysene Dibenzofuran	na na	na na	16 73	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Fluoranthene	na	na	2400	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Fluorene	na	na	2400	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Indeno[1,2,3-cd]pyrene	32.3	na	0.16	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Phenanthrene	na	na		na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Pyrene	na	na	1800	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Total Petroleum Hydrocarbons																									
TPH (Total) ³	1255	na	see note 3	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Polychloroniated Biphenyls																									
PCBs (Total) ⁴	11.5	na	0.23	7.4			15			-	-		0.63						62	3.2					-
Metals																									
Aluminum	na	na	77000	9640	8830	26900	23600	6270	3400	9140	10100	8680	9800	10000	15100	20600	17770	13400	5210	18200	11900	9050	3130	2420	2450
Antimony	na	na	31	0.31 7.6	0.2	0.13 5.4	0.24 11.2	0.2 13.6	0.16 4.6	0.16 9	0.13 7.4	0.17 7.4	0.25	2.7	8.2	6.4	0.16 7.5	9.4	0.39 6.2	0.19 5.1	0.23 4.6	0.25 7.8	0.41 5.7		0.23
Arsenic Barium	21.5 na	12.9 na	0.68 15000	62.6	54.5	161	134	291	11.7	44.6	65.8	50.5	62.6	53.8	69.1	131	106	9.4	59.4	111	78.5	42.2	117	2.3 8	6.2
Beryllium Beryllium	na na	na na	160	0.51	0.43	1.2	1.1	0.24	0.22	0.43	0.52	0.39	0.51	0.58	0.78	1	0.88	0.73	0.5	0.9	0.61	0.48	0.16	0.18	0.18
Cadmium	727	0.51	71	0.79	0.79	0.61	0.66	0.63	0.54	0.43	0.52	0.55	0.88	0.96	0.74	0.89	0.96	0.87	1.9	1					
Chromium (Total) ⁵	na	na	120000	18	19.4	28.4	25.9	12	8.1	12.4	12.6	13.4	34.4	12.3	19.7	28.9	34.9	19.4	83.8	22.8	14.8	12.2	9.3	4.5	4
Cobalt	220	6.4	23	6.1	4.5	10.6	7.0	2.6	3.2	5.3	4.7	3.7	5.7	6.6	7.3	7.6	8.6	8.5	6.9	9.6	5.7	6.4	1.6	1.5	2
Copper	29,495	11.8	3100	15.5	12.9	20.4	18.9			15.9	11.7	10.9	17	11.9	11.9	21.5	17.8	15.9	21.2	17.7	14.2	12.1	1.2	7	6.6
Cyanide	442	na	23																						-
Lead	na	na	400	13.9	10.5	17.6	16.2	19	7.5	4.5	11.6	12.2	17.7	11.7	19.9	21	20.3	20.8	55.4	20.8	26.7	10.7	2.2	4.7	3
Manganese	16,604	459	1800	330	302	567	335	330	214	775	362	275	327	233	163	214	735	794	460	468	295	335	461	128	176
Mercury	na	na	11				40.7		7.4	45.4					45.5			47.5	0.44						
Nickel	na	na	1500	14.2	11.8	23.1	19.7	4	7.1 0.15	15.1	10.5 0.24	9.7	18.2 0.15	13.2	15.5	18.7	22.5	17.5	56.1	20.4	14.2	36.9	2.4	5.9	6.2
Selenium	na	na	390	0.19		0.15	0.19		0.15		0.24	0.12	0.15	0.19					0.14						
Silver Thallium	na	na	390 0.78	0.23	0.15	0.28	0.21	0.17	0.16	0.23	0.2		0.15		0.19	0.17	0.21	0.24	0.14	0.22					
Vanadium	na 3662	na 17.4	390	19.6	17.4	0.28 51.7	47.6	10.8	9.8	22.1	19.4	17.3	20.2	19.5	32.3	36.9	35.3	28.9	9.4	33.8	24.2	20.6	7.2	9.4	8.4
Zinc		na	23000	44	42.8	59.0	54.8	19.2	15.8	39.7	35.2	32.4	67.7	40.7	54.9	77.4	68.6	64.2	59.7	57	47.9	253	13.2	19.7	16.2
Notes:						23.0																		<u> </u>	<u> </u>

'bgs' - below ground surface.

'na' - not analyzed for this constituent, no criterion or not applicable.

Shaded cells indicate concentrations above the May 2016 USEPA Residential Soil Screening Level.

1) USEPA Regional Screening Level (RSL) - Residential (USEPA, May 2016).

BUSTR action level - Class 1 Soil Action Level;

Ohio VAP action level - Commercial/Industrial Generic Direct Contact Soil Standard.

2) The USEPA Residential RSLs do not have a screening value for total 1,2-dichloroethene, therefore the screening level

for cis-1,2-dichloroethene has been substituted.

3) The USEPA Residential RSLs for TPH ranges are: 82 mg/kg for TPH (Aromatic Low), 96 mg/kg for TPH (Aliphatic Medium), and 2,500 mg/kg for TPH (Aromatic High).

4) The BUSTR action levels for TPH ranges are: 1,000 mg/kg for TPH (C₆-C₁₂), 2,000 mg/kg for TPH (C₁₀-C₂₀),

and 5,000 mg/kg for TPH (C₂₀-C₃₄).

5) Residential RSL for PCBs (high risk) applied. Residential RSL for trivalent chromium applied.

7) Soil background concentrations reported for the Cincinnati area (Ohio EPA, 2015).

⁻ Results and action levels are expressed in mg/kg.
- Analytical results are from the RCRA Facility Investigation Revised Draft Report (O'Brien & Gere 1995).

^{&#}x27;--' denotes non-detection.

		<u> </u>	Screening			0,4,4,4,1,0	40.0040:					WWW 1 0/4 C 21	244		0144	10.001	014/1	10.000		
Sample ID:	Soil Corrective	Soil	Value/Action Level ¹				12 SB13A				SV	VMU 8/12 SI	314		SWMU			12 SB3	SWMU 12-SS1-92	SWMU 12-SS1-94
Sample Date:	Measure Objectives	Background				19	92					1992			19	92	1992		1992	1994
Depth (ft bgs):	(CMOs)	Concentration	USEPA Residential Soil RSLs	0-2	4-6	8-10	12-14	16-18	20-22	0-2	4-6	8-10	12-14	16-18	2-4	10-12	0-2	8-10	0-0.5	0-0.5
Volatile Organic Compounds			CONTROLS		<u> </u>	<u> </u>						1						<u> </u>		
1,1,1-Trichloroethane	na	na	8100	4	9.3		12	15		0.045	0.006	0.078	0.048	0.058			0.064	0.016	300	
1,1-Dichloroethane	na	na	3.6																	
1,2-Dichloroethene (total) ²	na	na	160					8.4									-			
2-Butanone	na	na	27000																	
2-Methylnaphthalene	na	na	240												1.2					
4-methyl-2-pentanone	na	na	33000													0.3				
Acetone Benzene	na na	na na	61000 1.2													0.3				
Chlorobenzene	na na	na na	280										-							
Ethylbenzene	na	na	5.8																	
Naphthalene	1,280	na	3.8												2.3					
Tetrachloroethene	na	na	24							0.042	0.01	0.058	0.036	0.042			0.048	0.046		3.6
Toluene	na	na	4900													0.09				3.1
Trichloroethene	44.9	na	0.91										-							
Vinyl chloride	35.9	na	0.059														-			
Xylenes (Total)	na	na	580																	12
Semivolatile Organic Compound		I	3600	na	na	na	na	na	na	na	na	na	na	na	0.64		na	na		na
Acenaphthene Anthracene	na na	na na	18000	na	na	na	na	na	na	na	na	na	na	na	2.5		na	na		na na
Benzo(a)anthracene	32.3	na	0.16	na	na	na	na	na	na	na	na	na	na	na	2.9		na	na		na
Benzo[a]pyrene	3.23	na	0.016	na	na	na	na	na	na	na	na	na	na	na	2.1		na	na		na
Benzo[b]fluoranthene	32.3	na	0.16	na	na	na	na	na	na	na	na	na	na	na	4.1		na	na		na
Benzo[g,h,i]perylene	na	na		na	na	na	na	na	na	na	na	na	na	na	0.79		na	na		na
Benzo[k]fluoranthene	na	na	1.6	na	na	na	na	na	na	na	na	na	na	na	1.4		na	na		na
bis(2-Ethylhexyl)Phthalate	na	na	39	na	na	na	na	na	na	na	na	na	na	na	0.64		na	na		na
Chrysene	na	na	16	na	na	na	na	na	na	na	na	na	na	na	2.4		na	na		na
Dibenzofuran	na	na	73	na	na	na	na	na	na	na	na	na	na	na	2.2 5.9		na	na		na
Fluoranthene	na	na	2400 2400	na na	na na	na na	na na	na na	na na	na na	na na	na na	na na	na na	3.5		na na	na na		na na
Fluorene Indeno[1,2,3-cd]pyrene	na 32.3	na na	0.16	na	na	na	na	na	na	na	na	na	na	na	1.1		na	na		na
Phenanthrene	na	na		na	na	na	na	na	na	na	na	na	na	na	8.9		na	na		na
Pyrene	na	na	1800	na	na	na	na	na	na	na	na	na	na	na	6		na	na		na
Total Petroleum Hydrocarbons																			•	•
TPH (Total) ³	1255	na	see note 3	4800	410		2000	540		8600	1600	170	120		18000	150		92	46000	12000
Polychloroniated Biphenyls																				
PCBs (Total) ⁴	11.5	na	0.23	390	0.93		4.6	2.3		100	98	0.89	2.3		na	na	na	na		85
Metals		-						-											,	-
Aluminum	na	na	77000	7250	18400	4300	24900	21300	4630	4990	4490	14900	13700	21600	13000	22000	14100	11500	1900	4450
Antimony	na	na	31	0.47	0.24	0.23		0.38	0.23	0.55	0.29	0.25		0.27			0.23	0.34	7	0.32
Arsenic	21.5	12.9	0.68	1.7	2.8	2.1	4.9	18.1	2.9	3	2.9	5.2	8.5	5.4	5.2	4.6	7.6	7.3	1.4	4.7
Barium	na	na	15000	84.8	120 0.95	21.1 0.24	167 1.4	110 1.2	32.3 0.31	39.6 0.31	36.3 0.28	98.5 0.76	105 0.82	142	100 0.9	150 0.9	121 0.8	96.3 0.71	19	33.8 0.28
Beryllium Cadmium	na 727	na 0.51	160 71	0.42	0.95	0.24	1.4	1.2	0.31	2.6	2	0.76	0.82	1.1	0.9	0.9	0.8	0.71		1.8
Chromium (Total) ⁵	na na	na	120000	87.2	21.3	7.5	28.9	24.7	7.4	85.4	43.6	19	19.9	26.7	17	26	17.2	16.8	17	33.4
Cobalt	220	6.4	23	3.8	7.2	2.8	8.1	8.2	3.2	23.1	25.9	8.3	9.1	8.6	10	8	1	7.3	19	3.5
Copper	29,495	11.8	3100	10.9	17.2	6	57.3	21.9	6.9	58.1	54	16.1	18.6	23.9	17	16	17.3	15.9	13	42.5
Cyanide	442	na	23							0.7	0.9								na	
Lead	na	na	400	58.6	12.9	5	15	20.1	5.6	17.6	14.9	19.3	25	19.3	17	17	20.8	20.6	23	12.6
Manganese	16,604	459	1800	1570	336	148	244	312	274	353	309	788	642	205	1200	180	328	731	150	390
Mercury	na	na	11							0.23	0.25			0.16						
Nickel	na	na	1500	19.9	18.7	7.2	24.5	21.3	7.4	94	78.3	17.4	25.5	21.3	18	20	19.5	15.1	57	50.1
Selenium	na	na	390		1.3								-					0.89		
Silver	na	na	390										0.13					0.14		
Thallium Vanadium	na 3662	na 17.4	0.78 390	8.9	35.4	11.6	36	39.1	12.1	11.8	10.6	28.7	26.9	38.8	26	41	26.3	23.5	9	8.8
v anaululli	300∠																57.7	60.5	-	
Zinc	na	na	23000	45.7	59.8	22.2	100	78	23	90.5	87.3	68.5	84.1	91.8	67	64			4	40.6

Results and action levels are expressed in mg/kg.
 Analytical results are from the RCRA Facility Investigation Revised Draft Report (O'Brien

'--' denotes non-detection.

'bgs' - below ground surface.

'na' - not analyzed for this constituent, no criterion or not applicable.

Shaded cells indicate concentrations above the May 2016 USEPA Residential Soil Screen

1) USEPA Regional Screening Level (RSL) - Residential (USEPA, May 2016).

BUSTR action level - Class 1 Soil Action Level;

Ohio VAP action level - Commercial/Industrial Generic Direct Contact Soil Standard. 2) The USEPA Residential RSLs do not have a screening value for total 1,2-dichloroethen

for cis-1,2-dichloroethene has been substituted.

3) The USEPA Residential RSLs for TPH ranges are: 82 mg/kg for TPH (Aromatic Low), 9 Medium), and 2,500 mg/kg for TPH (Aromatic High).

4) The BUSTR action levels for TPH ranges are: 1,000 mg/kg for TPH (C₆-C₁₂), 2,000 mg/

and 5,000 mg/kg for TPH (C₂₀-C₃₄).

5) Residential RSL for PCBs (high risk) applied.

6) Residential RSL for trivalent chromium applied.

7) Soil background concentrations reported for the Cincinnati area (Ohio EPA, 2015).

SWMU/AOC ID: SWMU-14 | Battery Storage Area

Location: The battery storage area is located within the Scrap Yard Area in the northeastern portion of

the GE site.

Description: SWMU-14 is a 15-ft by 25-ft asphalt pad surrounded by a 6-inch concrete curb on three

sides. Batteries containing sulfuric acid and metal constituents are stored in this area for pickup by a recycler. The area has been used for battery storage since the 1950s; however,

the asphalt pad was not installed until 1989.

Background: Two soil borings (14-SB-1 and 14-SB-2) and two surface soil samples (14-SS-1 and 14-SS-2)

were collected from this unit and analyzed for organics between March and July 1994.

RFI Results Summary:

Subsurface soils analytical results indicate concentrations of antimony, calcium, chromium, copper, magnesium, nickel, and zinc were present in the soil below Region V Data Quality Levels (DQLs) from July 1994. Cadmium (92 mg/kg) and beryllium (1.1 mg/kg) were the

only analytes detected greater than the Region V DQLs from July 1994.

CMS Soil Pathway Summary:

The results of the CMS for this SWMU indicated soil analytical results for the soil samples are below the CMO for arsenic, cadmium, cobalt, and cyanide.

Arsenic concentrations are greater than the Residential RSL (0.68 mg/kg) for five samples: [SWMU 14-SB1 (14-16 fbg) of 1.5 mg/kg, SWMU 14 SB-2 (2-4 fbg) of 6.4 mg/kg and (12-14 fbg) of 5.8 mg/kg, SWMU SS-1 of 8 mg/kg and SWMU 14 SS-2 of 4.2 mg/kg]. These arsenic concentrations are below the natural background concentration (12.9 mg/kg).

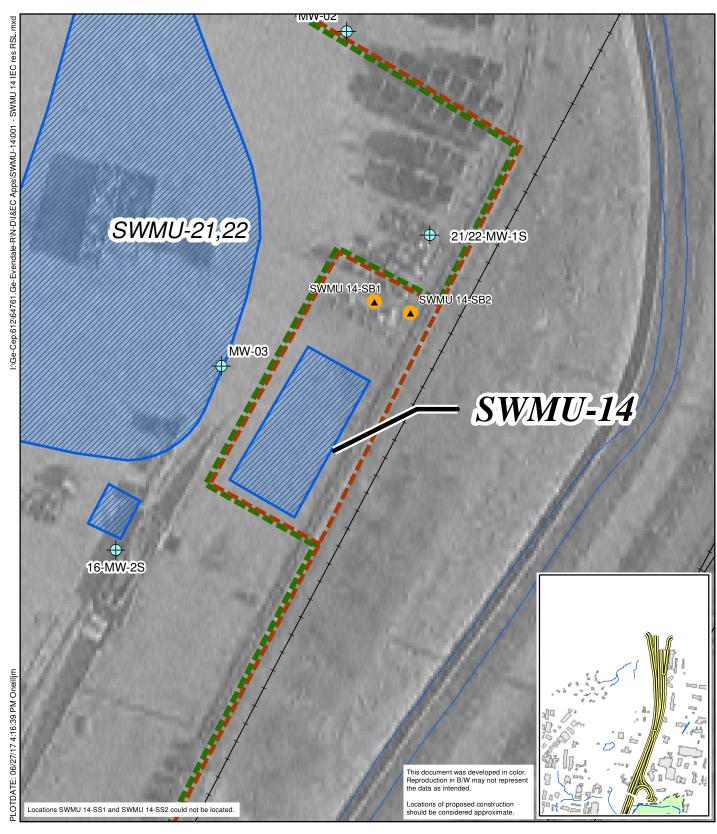
The cadmium concentration is greater than the Residential RSL (71 mg/kg) for one soil sample: SWMU 14-SB1 (2-4 fbg) of 92 mg/kg. This detection is also greater than the natural background concentration range of 0.07- 4.4 mg/kg.

A detection of cobalt is greater than the Residential RSL (23 mg/kg) in one surface soil sample [SWMU 14 ss-1 of 130 mg/kg), this detection is greater than the natural background concentration range of 1.1-53.6 mg/kg.

A cyanide concentration is greater than the Residential RSL (23 mg/kg) for one sample location [SWMU 14-SB1 (2-4 fbg) of 80 mg/kg].

Exposure to COPCs at this SWMU can be managed with a restriction to industrial use of the area shown on the attached Figure.





FGEND



SWMU 14 - BATTERY STORAGE AREA

GE EVENDALE, OHIO 10 20 30 40





SWMU/AOC ID: SWMU-16 | 509 Scrapyard Weigh Station Sump

Location: The sump located on the east side of the weigh station at the 508 Scrap Yard in the eastern

portion of the GE site.

Description: SWMU-16 is comprised of a 3-ft by 3-ft by 1-ft deep unlined, concrete sump. The sump is

believed to have begun operating in the 1940s.

SWMU-16 is located in the immediate vicinity of SWMU-8 and SWMU-12.

RFI Background: Three soil borings were collected to first encountered groundwater and monitoring wells

were subsequently installed. Soil samples (SWMU 16 SB-1, 16-MW-2S and 16-MW-3S) collected from the soil borings and groundwater samples (16-MW-1S, 16-MW-2S and 16-MW-2S).

MW3S) collected from the installed wells were submitted for laboratory analysis.

RFI Results Summary:

Subsurface soils analytical results indicate concentrations of acetone (0.023 to 0.05 mg/kg), 1,2-DCE (0.009 – 0.031 mg/kg), 1,1,1-TCA (0.017 – 0.030 mg/kg), TCE (0.027 mg/kg), 2-butanone (0.015 mg/kg), and TPH (0.34 – 4.6 mg/kg) were detected below Region V Data Quality Levels (DQLs) from July 1994. The SVOC fluoranthene was detected greater than the Region V DQL at a concentration of 0.42 mg/kg. Concentrations of cobalt (2.7 – 11.8 mg/kg), and beryllium (0.81 – 1.0 mg/kg) were also detected greater than Region V DQL, but below calculated background levels. Arsenic was detected in greater than the DQL and the calculated background level at a concentration of (3.200 – 23.500 mg/kg).

Shallow groundwater samples collected from the monitoring wells was analyzed, and results indicated that acetone (< 10 μ g/l), 1,1-DCA (7 μ g/l), PCBs (0.2 μ g/l), 1,2-DCE (6 – 9 μ g/l), and 1,1,1-TCA (8 μ g/l) were detected below Region V DQLs. Concentrations of bis(2-ethylhexyl) phthalate (530 μ g/l), 1,2-DCA (11 μ g/l), TCE (6 μ g/l), cobalt (19.6 – 28.4 μ g/l), lead (35.2 μ g/l) and cadmium (7 μ g/l) were detected greater than the Region V DQLs.

CMS Soil Pathway Summary:

The results of the CMS for this SWMU indicated soil analytical results are greater than the CMO for TPH (1,213 mg/kg) for one soil sample at soil boring location: SWMU 16-SB1 (4-6 fbg) of 4,600 mg/kg], and for arsenic (21.5 mg/kg) at one soil boring location 16 MW-2S (8-10 fbg) of 23.5 mg/kg.

In addition to the above detection of TPH is greater than the Residential RSL for TPH [(82 mg/kg (Aromatic low)], one additional sample is greater than the Residential RSL at SWMU 16-SB1 (2-4 fbg) of 340 mg/kg.

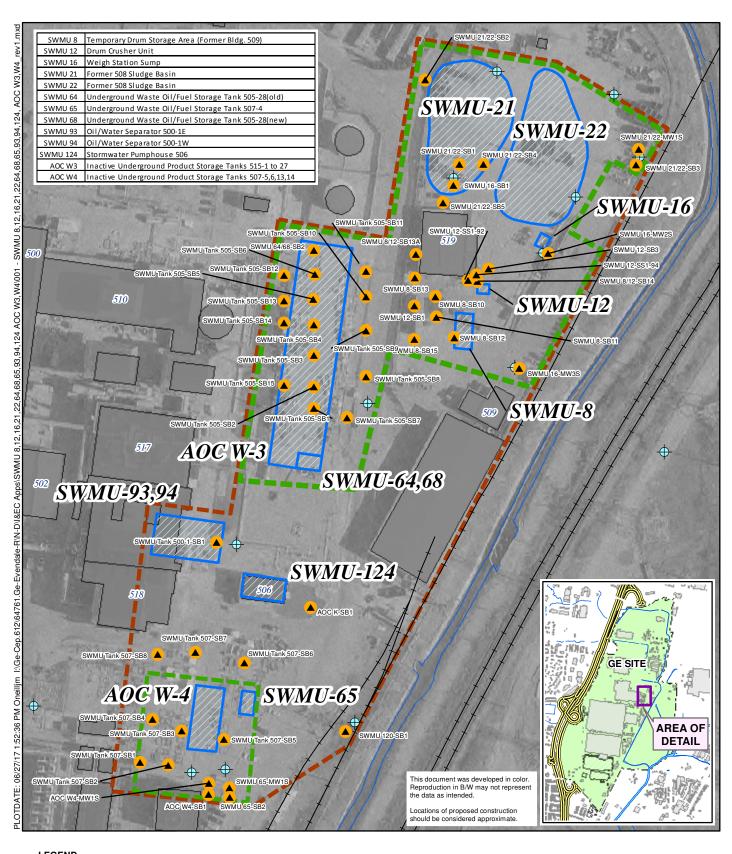
In addition to the above detection of arsenic, the concentrations greater than the Residential RSL (0.68 mg/kg), the following samples are greater than the Residential RSLs:

- SWWMU 16-SB1 (2-4 fbg) of 4 mg/kg and (4-6 fbg) of 2.8 mg/kg;
- 16-MW2S (12-14 fbg) of 4.9 mg/kg; and
- 16-MW3S (8-10 fbg) of 7.5 mg/kg and (18-20 fbg) of 3.2 mg/kg.

These samples are below the natural background concentration for arsenic (12.9 mg/kg) except for sample 16 MW-2S (8-10 fbg) of 23.5 mg/kg.

Exposure to COPCs at this SWMU can be managed with a restriction to industrial use and maintenance of a cover system in the area shown on the attached Figure.

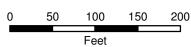




Approximate SWMU Area Existing Building Engineering Control Boundary Institutional Control Boundary Monitoring Well A RFI Soil Boring

MULTIPLE SWMUs / AOCs LOCATION MAP

GE EVENDALE, OHIO





June 2017

SWMU/AOC ID: SWMU-17 | Reading Road Landfill

Location: Approximately 0.5-mile east of the site (east of the East Fork Mill Creek).

Description: SWMU-17 is approximately 850-ft at its widest point by approximately 1,050-ft long by 12-ft

deep. The area was built up with debris from the demolition of test cells, and gravel swept from the rooftops at GE's plant. Fill materials include concrete rubble, sound bats, metal duct work, reinforcing rods, and high temperature concrete. The roadbed in the area was

built up from fly ash. This was an active area from approximately 1958 until 1975.

RFI Background: A geophysical survey was performed as part of the RFI to evaluate the extent of waste

materials at this location. In addition, a soil vapor survey was also conducted to evaluate the areal distribution of subsurface VOCs. Four surface soil samples (SWMU 17-SS-1, SS-2, SS-3, and SS-4) were collected and analyzed for VOCs, SVOCs, TPH, and inorganic compounds.

RFI Results Summary:

Analytical data for surface soils (0-5 feet below grade [fbg]) indicates that a variety of inorganics including aluminum, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, mercury, nickel, selenium, and silver were detected at the sample locations. Beryllium (0.09 – 2.7 mg/kg) was the only inorganic analyte detected greater than the Region V Data Quality Levels (DQLs) from July 1994. TPH was detected in SWMU 17-SS-1 at a concentration of 220 mg/kg. Toluene was detected below Region V DQLs in SWMU 17-SS-1 and SWMU 17-SS-4 at concentrations of 10 mg/kg and 26 mg/kg, respectively. SVOCs were not detected above method detection limits.

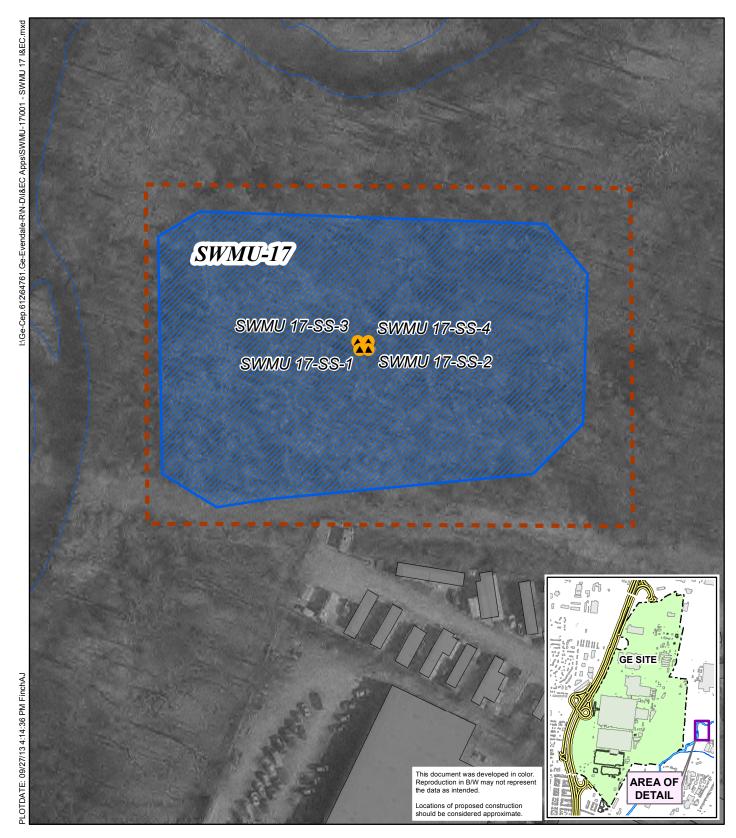
CMS Soil Pathway Summary:

The results of the CMS for this SWMU indicated surface soil analytical results are above the CMO for TPH [82 mg/kg (Aromatic low)] at location SWMU 17-SS-1 (0-0.5 fbg) of 220 mg/kg. Detections of arsenic are below the CMO (21.5 mg/kg) however, the four samples analyzed are greater than the Residential RSL (0.68 mg/kg). Two of the detections of arsenic are greater than the natural background concentration (12.9 mg/kg) for two surface soil samples collected (SWMU 17-SS-1 [0-0.5 fbg] and SWMU 17-SS-3 [0-0.5 fbg]) of 18 mg/kg and 17 mg/kg, respectively.

Additionally, cobalt was detected greater than the Residential RSLs (23 mg/kg) at SWMU 17- SS-1 (0-0.5 fbg) at a concentration of 32 mg/kg. This result is within the average natural background concentration of 1.1-53.6 mg/kg.

Exposure to COPCs at this SWMU can be managed with a restriction to industrial use of the area shown on the attached Figure.

DRAFT FIGURE



LEGEND





SWMU 17 - READING ROAD LANDFILL

GE EVENDALE, OHIO 0 50 100 150 200 Feet





SWMU/AOC ID: SWMU-18 | Sludge Basin Landfill

Location: East of the lime precipitation basins and south of the East Landfarm (SWMU 19).

Description: SWMU-18 comprises the area along the road leading to the lime precipitation basins where

piles of soil-like material were discovered during the A.T. Kearney VSI in 1989. The material was reportedly composed of mainly construction debris. The piles were 2-ft to 3-ft high with some runoff observed. SWMU-18 covers an area of approximately 100-ft by 200-ft by 2-ft deep. Following waste characterization, the material was removed for off-site disposal.

RFI Background: A geophysical survey was performed as part of the RFI to evaluate the extent of fill materials

at this location. In addition, a soil vapor survey was also conducted to evaluate the areal distribution of subsurface VOCs. The results obtained from these surveys were used to select soil boring and monitoring well locations for additional investigation. A ground water

monitoring well was installed just southeast of this SWMU.

Subsurface soil samples were collected from soil borings (18-SB-2 and 18-SB-4), and the monitoring well installation (18-MW-1S). Groundwater samples were also collected from the monitoring well. In addition, four soil composite samples (1C, 2C, 3C, and 4C) and six surface soil samples (SS-1, SS-2, SS-3, SS-4, SS-5, SS-6) were collected from this SWMU area

and submitted to a laboratory for analysis.

RFI Results Summary:

Subsurface and surface soil samples were analyzed for VOCs, SVOCs, metals and cyanide. Some of the subsurface soil samples were also analyzed for TPH based on visual observations and screening during completion of the borings. Analytical data indicate naphthalene (4.7 mg/kg) was detected in subsurface soil sample MW-1S. This concentration was below the Region V Data Quality Levels (DQLs) from July 1994. TPH was detected in 18-SB-2 and 18-SB-4 at concentrations between 340 and 2,700 mg/kg. Beryllium was detected in all the composite and surface soil samples in concentrations ranging from 0.7 to 1.9 mg/kg.

The groundwater sample was analyzed for VOCs, SVOCs, and metals. No analytes were detected in the groundwater sample.

CMS Soil Pathway Summary:

The results of the CMS for this SWMU indicated two soil analytical results greater than the CMO for TPH (1,213 mg/kg) at two soil boring locations (SMWU-18 SB2 [4-6 fbg] of 2,700 mg/kg and SWMU 18 SB4 at [14-16 fbg] of 2,400 mg/kg), respectively.

In addition to the above samples greater than the TPH CMO, they also are greater than the Residential RSL (82 mg/kg for TPH (Aromatic Low)) with an additional sample at SWMU 18-SB2 (16-18 fbg) with a concentration of 340 mg/kg greater than the Residential RSL.

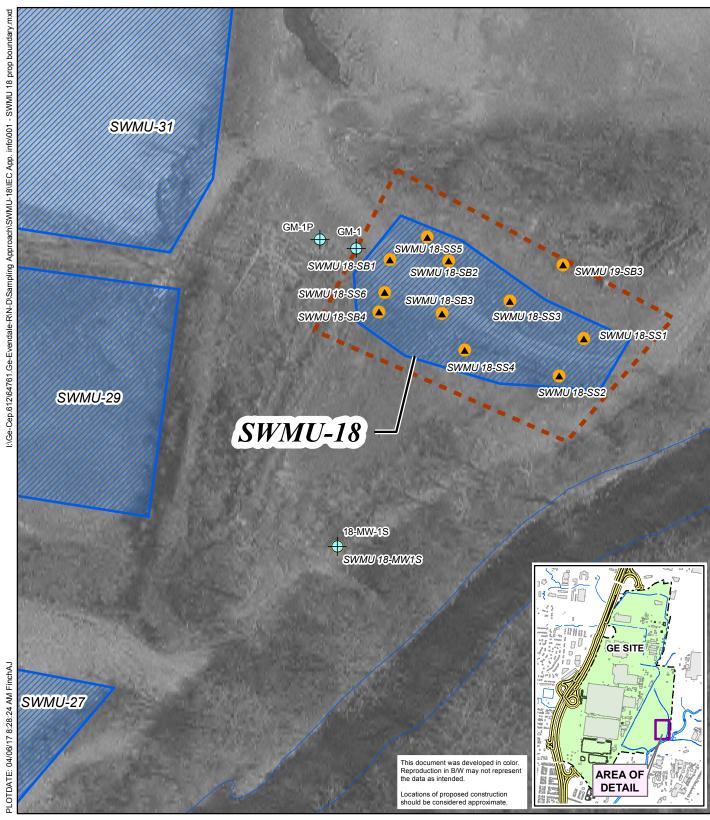
One soil sample result is greater than the Residential RSL for Naphthalene (4 mg/kg) at location SWMU 18-MW1S (8-10 fbg) of 4.7 mg/kg.

Four soil sample results are greater than the Residential RSL for arsenic (0.68 mg/kg), one of which is greater than the natural background concentration for arsenic (12.9 mg/kg): the composite soil sample from SWMU 18-SB2 had an arsenic concentration of 17 mg/kg.

Exposure to COPCs at this SWMU can be managed with restriction to industrial use and maintenance of a cover system in the area shown in the attached Figure.



DRAFT FIGURE



LEGEND



SWMU 18 SLUDGE BASIN LANDFILL

GE EVENDALE, OHIO 30 60 90 120 Feet





SWMU/AOC ID: SWMU-19 | East Land Farm

Location: Area located in the eastern portion of the site between the Cleveland-Cincinnati-Chicago-St.

Description: SWMU-19 has been active since 1963. The area is irregularly shaped and measures

approximately 1,100-ft by 900-ft. The SWMU contains dewatered lime precipitate from the cold lime softening of drinking water, boiler house water conditioning blowdown, and fly

ash. Fly ash generation ended in 1975.

Background: A soil vapor survey was conducted at this location to evaluate the areal distribution of

subsurface VOCs. The data obtained from the survey was used to select targeted soil boring locations. Four subsurface soil samples (19-SB1, 19-SB2, 19-SB3, and 19-SB4) and four surface soil samples (19-SS1, 19-SS2, 19-SS3, and 19-SS4) were collected from soil borings completed at this unit. Samples were submitted for laboratory analysis for VOCs, TPH, PCBs,

and inorganics.

RFI Results Summary:

Subsurface soils analytical results indicate that acetone (0.011 – 0.018 mg/kg), 1,1,1-trichloroethane (0.006 – 0.040 mg/kg), methylene chloride (0.005 – 0.008 mg/kg), and toluene (0.008-0.011 mg/kg) are present in the subsurface soil, but at concentrations below the Region V Data Quality Limits (DQLs) from July 1994.

Surface soil analytical results indicate toluene was detected at 19-SS4 at a concentration of 0.012 mg/kg. The toluene concentration is below the Region V DQL, and no other VOCs were detected in surface soil samples. Beryllium was detected in all of the surface soil samples in concentrations between 1.6-2.2 mg/kg, which is above the Region V DQLs.

CMS Soil Pathway Summary:

The results of the CMS for this SWMU indicated the soil analytical results are below the CMO for VOCs, TPH and PCBs. Detections of metals are below CMOs except for arsenic (CMO is 21.5 mg/kg) at two locations: SWMU 19-SS3 (0-0.5 fbg) of 14 mg/kg and SWMU 19-SS4 (0-0.5 fbg) of 14 mg/kg.

Detections of arsenic are greater than the Residential RSLs (0.68 mg/kg) for eight of the samples collected as follows:

- SWMU 19-SB1 (10-12 fbg) of 5 mg/kg and (12-14 fbg) of 4.3 mg/kg;
- SWMU 19-SB2 (14-16 fbg) of 1.3 mg/kg and (16-18 fbg) of 1.8 mg/kg;
- SWMU 19-SB3 (10-12 fbg) of 6.6 mg/kg and (12-14 fbg) of 6.4 mg/kg;
- SWMU 19-SB4 (4-6 fbg) of 2.1 mg/kg and ((8-10 fbg) of 1.1 mg/kg;
- SWMU 19-SS1 (0-0.5 fbg) of 10 mg/kg;
- SWMU 19-SS2 (0-0.5 fbg) of 11 mg/kg;
- SWMU 19-SS3 (0-0.5 fbg) of 14 mg/kg; and
- SWMU 19-SS4 (0-0.5 fbg) of 14 mg/kg).

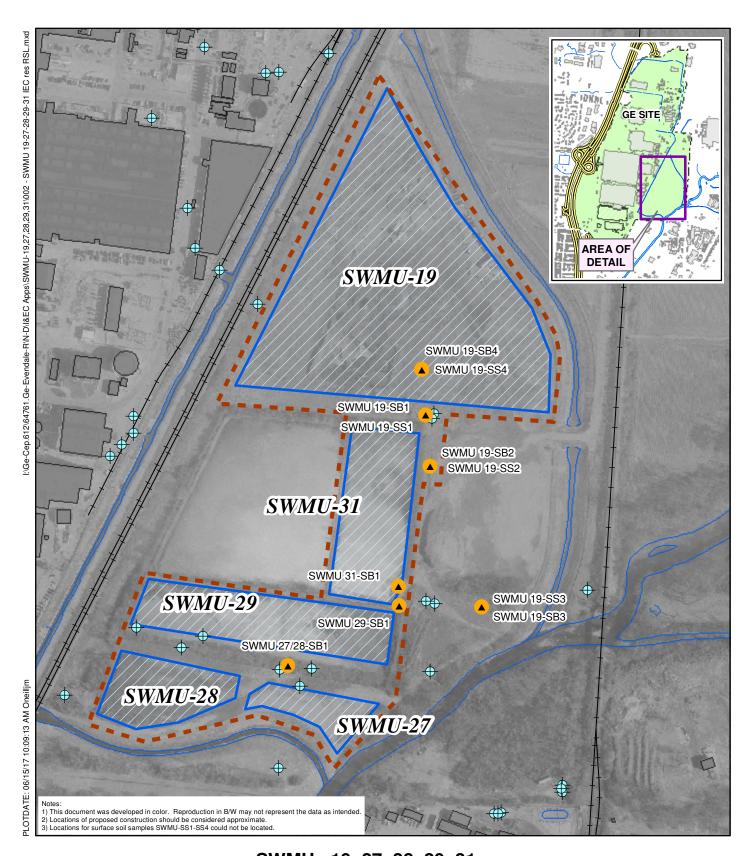
These detections are below the natural background concentration (12.9 mg/kg), except for locations SWMU-19 SS3 (0-0.5 fbg) and SWMU-SS4 (0-0.5 fbg) both concentrations of 14 mg/kg. These concentrations are below the Lowest Soil Remediation Goal (RG) of 21.5 mg/kg.

A detection of manganese is greater than the Residential RSL (1,800 mg/kg) at location SWMU 19 SB-4 (4-6 fbg) of 2,800 mg/kg. This detection of manganese is greater than the natural background concentration range of 59-1,750 mg/kg.



Exposure to COPCs at this SMWU can be managed with restriction to industrial use of the area shown in the attached Figure.

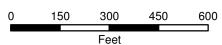




LEGEND Approximate SWMU Area Institutional Control Boundary

SWMUs 19, 27, 28, 29, 31 EAST LANDFARM & LIME PRECIPITATION BASINS

GE EVENDALE, OHIO





Monitoring Well

RFI Soil Boring

SWMU/AOC ID: SWMU-20 | Former North Land Farm

Location: Immediately north of the former Ford Motor Company property and Building 90 in the

northwestern portion of the GE site.

Description: SWMU-20 was used once or twice between 1968 and 1970 to receive solid residue from

non-process oil/water separators and plant drainage system "sediment". The SWMU area is approximately 5 acres in size. The received oil/water separator bottom sludge consisted of non-process cooling water and possibly carried jet fuel. The oil/water separators were used to remove jet fuel prior to discharge to the plant drainage system (*i.e.*, through the NPDES permitted discharge outfalls). There was also some bottom sediment that accumulated in the plant drainage ditch that was applied to the grassy area. The principal component of the sludge was carbon smoke particles washed out of the engine exhaust by cooling water that

was then diverted into this drainage system.

RFI Background: A geophysical survey was performed as part of the RFI to evaluate the extent of fill materials

at this location. In addition, a soil vapor survey was also conducted to evaluate the areal distribution of subsurface VOCs. The data obtained from these surveys was used to select

soil boring and monitoring well locations.

Ten soil borings (SWMU 20-SB1 through SWMU 20-SB10) were completed, and associated subsurface soil samples submitted for laboratory analysis. A nested shallow and deep well (Well ID 20-MW-3S/3D) and a shallow well (Well ID 20-MW-1S) were installed on the downgradient side of this SWMU to assess possible impacts from this area. Water (MW1S, MW-3S, and MW-3D) and soil (MW-1S and MW-1S-4) samples were collected from the

monitoring well locations for analysis.

RFI Results Summary:

Analysis of the separator bottom sludge for pH, EP-Toxicity, and metals from representative oil/water separators indicated that the waste material was not a RCRA hazardous waste.

Acetone (17 – 66 μ g/kg), toluene (6 – 40 μ g/kg), TCE (24 μ g/kg), and xylene (9 μ g/kg) were detected in soil boring samples below the Region V Data Quality Limits (DQLs) from July 1994. Beryllium (900 – 1,000 μ g/kg) and several semi-volatile organic compounds (SVOCs) (210 – 5,000 μ g/kg) were detected greater than the Region V Data Quality Levels (DQLs) for soil samples. No PCBs were detected in the soil samples.

Shallow groundwater samples indicate the presence of TCE (5 μ g/l) and bis(2-eh) phthalate (350 μ g/l) greater than the Region V DQLs for water. Acetone and 1,2-DCE were also detected in the shallow groundwater samples; however, detected concentrations for these analytes were below the DQLs. No VOCs, SVOCs, or PCBs were detected in the deep well groundwater sample.

Additional Assessment Results:

In May 2016, a visual subsurface investigation was conducted of the approximately 10-acre north end of the Facility being considered for building construction. A total of 35 shallow test pits (4 to 8 ft deep) were excavated to visually assess the extent of the previously land-farmed materials at SWMU 20. Test pit locations were based on a 100 ft by 100 ft grid, with the initial test pit excavation beginning in the northernmost portion of the 10-acre north area to visually identify native soils, and working in the south direction. Field screening for VOC vapors was conducted during test pit excavation and subsurface lithology was logged over approximately 1-ft lift intervals.

Based on field observations during the test pit excavations, the native subsurface soils generally consist of approximately 3 to 4 feet of dark brown silty clay overlying a yellow brown silty clay. Non-native materials consisting of construction debris (bricks, metal wire,



pieces of asphalt/concrete) interspersed within the silty clay were generally encountered at depths of 1 to 2 feet below existing ground surface within the central to northeastern area of investigation. In contrast, other non-native material consisting of dark-colored solid material, light-colored materials, generally consistent with SWMU-20 related documentation, along with glass bottles, concrete, bricks and metal was observed to a depth of approximately 4 feet below existing ground surface. The approximate extent of this non-native material based on test pit observations associated with SWMU-20 is estimated to be in the southern third of the area, covering approximately 3 to 4 acres.

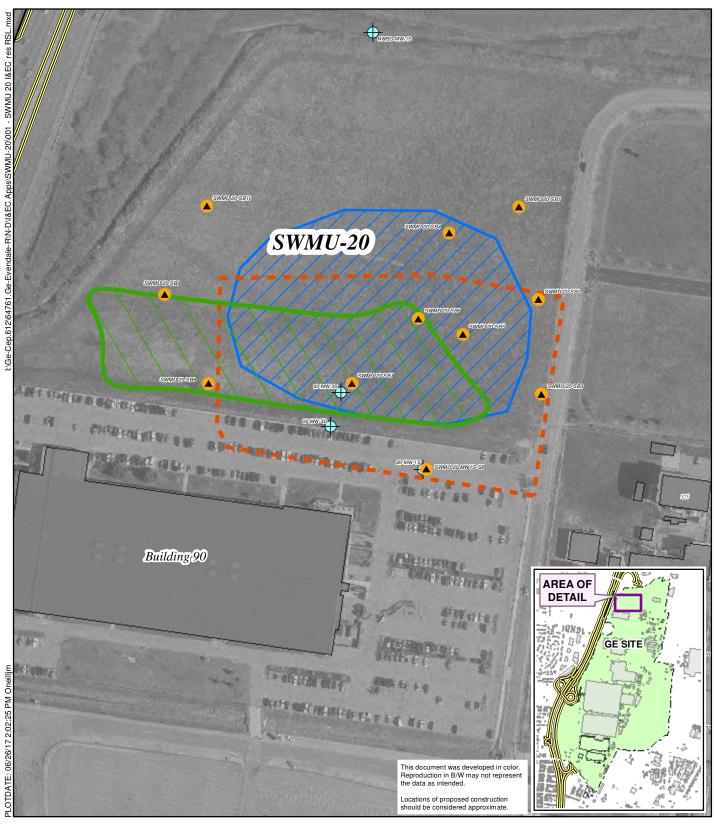
CMS Soil Pathway Summary:

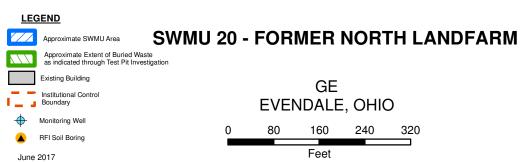
The results of the CMS for this SWMU indicated soil analytical results are below the CMO, however, soil results are greater than the Residential RSLs as follows:

- Several polycyclic aromatic hydrocarbons (PAHs) were detected greater than the Residential RSLs in soil samples from borings SWMU 20MW-1SB (0-2 fbg) and SWMU 20-SB7 (8-10 fbg) and include:
 - benzo (a) anthracene Residential RSL is 0.16 mg/kg; soil concentrations of this PAH in samples from these two borings were 0.39 mg/kg and 2.9 mg/kg, respectively;
 - benzo (a) pyrene Residential RSL is 0.016 mg/kg; soil concentrations of this PAH in samples from these two borings were 0.36 mg/kg and 2.5 mg/kg, respectively;
 - benzo (b) fluoranthene Residential RSL is 0.16 mg/kg; soil concentrations of this PAH in samples from these two borings were 0.54 mg/kg and 4.6 mg/kg, respectively;
 - indeno (1,2,3-cd) pyrene Residential RSL is 0.16 mg/kg; soil concentrations of this PAH in samples from these two borings were 0.27 mg/kg and 1.6 mg/kg, respectively;
- The TPH Residential RSL is 82 mg/kg TPH (Aromatic Low); a soil sample collected from one soil boring indicates this detection is greater than the Residential RSL at SWMU 20-SB1 (12-14 fbg) at 170 mg/kg;
- Metals concentrations were compared with Residential RSLs and natural background concentrations; with highlights as follows:
 - The arsenic Residential RSL is 0.68 mg/kg; however, the natural soil background concentration is 12.9 mg/kg; none of the soil samples are above the background concentration for arsenic;
 - The manganese Residential RSL is 1,800 mg/kg, with a natural background concentration range in Ohio of 59 mg/kg to 1,750 mg/kg; a soil sample collected from one soil boring (SWMU 20-SB5 [2-4 fbg]) indicates a manganese concentration greater than the Residential RSL and natural background range at 2,900 mg/kg.

Exposure to COPCs at this SWMU can be managed with restriction to industrial use of the area shown in the attached Figure.











Screening of Detected Chemicals in Soil - SWMU 20 GE Aviation - Evendale, Ohio

Sample ID: Sample Date:	Soil Corrective	Soil Background	Screening Value/Action Level ¹		MW-1S SB 993		993		993		20 SB3 993		J 20 SB4 993		SWMU 20 SB 1993	5
Depth (ft bgs):	Measure Objectives (CMOs)	Concentration	USEPA Residential Soil RSLs	0-2	6-8	10-12	12-14	2-4	10-12	2-4	12-14	2-4	12-14	2-4	8-10	10-12
Volatile Organic Compounds																
Acetone	na	na	61000	0.23			0.045						0.017			
Toluene	na	na	4900							0.007						
Trichloroethene	44.9	na	0.91													
Xylenes (Total)	na	na	580	9												
Semivolatile Organic Compou	nds															
Anthracene	na	na	18000													
Benzo(a)anthracene	32.3	na	0.16	0.39												
Benzo[a]pyrene	3.23	na	0.016	0.36												
Benzo[b]fluoranthene	32.3	na	0.16	0.54												
Benzo[g,h,i]perylene	na	na		0.23												
Benzo[k]fluoranthene	32.3	na	1.6	0.21												
bis(2-Ethylhexyl)Phthalate	na	na	39													
Chrysene	na	na	16	0.41												
Fluoranthene	na	na	2400	1.1												
Fluorene	na	na	2400													
Indeno[1,2,3-cd]pyrene	32.3	na	0.16	0.27												
Phenanthrene	na	na		0.85												
Pyrene	na	na	1800	0.88												
Total Petroleum Hydrocarbons	s				•		•		•							
TPH (Total) ²	1255	na	see note 2	na	na											
Metals	1200	TIQ.	SOO HOLO E		1				1							
Aluminum	na	na	77000	na	na	2000	1800	14000	2300	17000	2000	15000	2300	15000	4000	2400
Arsenic	na	na	0.68	na	na	3.5	2.5	7.8	2.9	4.9	2.9	6.9	2.8	5.3	4.2	3.3
Barium	21.5	12.9	15000	na	na			120		130		110		120		
Beryllium	na	na	160	na	na			1		1		1		0.9		
Cadmium	na	na	71	na	na											
Chromium (Total) ³	727	0.51	120000	na	na	4	4	18	5	20	4	19	4	18	7	5
Cobalt	na	na	23	na	na			8		10		9		9		
Copper	220	6.4	3100	na	na	7	6	13	8	14	5	18	8	14	20	8
Lead	29,495	11.8	400	na	na	5.2	2.6	18	3.6	11	2.6	11	3.9	16	7.8	4
Manganese	16,604	459	1800	na	na	140	150	500	160	580	130	630	140	2900	160	150
Mercury	na na	na	11	na	na											
Nickel	na	na	1500	na	na	5		15	6	16		19	5	15	13	7
Silver	na	na	390	na	na											
Vanadium	3662	17.4	390	na	na	12	11	31	12	33	13	32	14	30	13	13
Zinc	na	na	23000	na	na	18	14	64	19	53	16	58	12	68	41	19

Zinc	na	na	23000	na	na	18	14	64	19	53	16	58	12
Sample ID:			Screening SWMU 20 SB6			SWMU	20 SB7	SWMU	20 SB8	SWMU	20 SB9	SWMU	20 SB10
Sample Date:	Soil Corrective Measure Objectives	Soil Background	Value/Action Level ¹	19	993	19	993	19	993	19	993	19	993
Depth (ft bgs):	(CMOs)	Concentration	USEPA Residential Soil RSLs	4-6	12-14	2-4	8-10	2-4	14-16	2-4	10-12	2-4	8-10
Volatile Organic Compounds	i												
Acetone	na	na	61000			0.066	0.044		0.052		0.054		
Toluene	na	na	4900			0.040	0.008		0.006		0.006		
Trichloroethene	44.9	na	0.91				0.024						
Xylenes (Total)	na	na	580										
Semivolatile Organic Compo	unds												
Anthracene	na	na	18000				0.9						
Benzo(a)anthracene	32.3	na	0.16				2.9						
Benzo[a]pyrene	3.23	na	0.016				2.5						
Benzo[b]fluoranthene	32.3	na	0.16				4.6						
Benzo[g,h,i]perylene	na	na					1.1						
Benzo[k]fluoranthene	32.3	na	1.6				1.3						
bis(2-Ethylhexyl)Phthalate	na	na	39			0.440							
Chrysene	na	na	16				2.1						
Fluoranthene	na	na	2400				3.9						
Fluorene	na	na	2400				0.450						
Indeno[1,2,3-cd]pyrene	32.3	na	0.16				1.6						
Phenanthrene	na	na					2.7						
Pyrene	na	na	1800				5.0						
Total Petroleum Hydrocarbo	ns												
TPH (Total) ²	1255	na	see note 2				170						
Metals													
Aluminum	na	na	77000	15000	1600	12000	16000	18000	2500	16000	5900	21000	4400
Arsenic	na	na	0.68	6.4	2.7	4.9	6.2	8.2	3	4.1	6.1	9	9.3
Barium	21.5	12.9	15000	180		110	240	110	180	130	37	120	46
Beryllium	na	na	160	1		0.7	0.9	0.9		0.9		0.8	
Cadmium	na	na	71				1.5						
Chromium (Total) ³	727	0.51	120000	30	3	20	26	21	5	20	9	26	8
Cobalt	na	na	23	16			9	11		10	6	14	10
Copper	220	6.4	3100	45	6	170	120	16	8	15	15	19	14
Lead	29,495	11.8	400	26	3.2	31	44	20	4.4	13	7.9	13	7.6
Manganese	16,604	459	1800	810	140	380	500	440	190	700	380	620	1500
Mercury	na	na	11	0.30		0.2	1.2						
Nickel	na	na	1500	36		73	53	18	6	18	16	23	20
Silver	na	na	390				1						
Vanadium	3662	17.4	390	34	11	22	33	35	14	32	20	45	16
Zinc	na	na	23000	110	14	170	210	64	22	56	45	80	35

Notes:

- Results and action levels are expressed in mg/kg.

- Analytical results are from the RCRA Facility Investigation Revised Draft Report (O'Brien & Gere 1995).

'--' denotes non-detection.

'bgs' - below ground surface.

Shaded cells indicate concentrations above the May 2016 USEPA Residential Soil Screening Level.

'na' - not analyzed for this constituent, no criterion or not applicable.

1) USEPA Regional Screening Level (RSL) - Residential (USEPA,May 2016);
2) The USEPA Residential RSLs for TPH ranges are: 82 mg/kg for TPH (Aromatic Low), 96 mg/kg for TPH (Aliphatic Medium), and 2,500 mg/kg for TPH (Aromatic High).
3) Residential RSL for trivalent chromium applied.

SWMU/AOC ID: SWMU-21 and SWMU-22 | 508 Sludge Basin Area

Location: North end of the Scrap Yard area in the northeast portion of the site.

Description: SWMU-21 and SWMU-22 are adjacent sludge basins used circa 1946 through 1958 to

dewater sludge from a lime softening water treatment process and sludge from the treatment of electroplating wastewater. The East Basin is approximately 8,000 cubic yards, and the West Basin is approximately 2,000 cubic yards. The waste is primarily water treatment sludge with 5% to 10% chromium and cadmium bearing electroplating

wastewater treatment sludge.

RFI Background: A geophysical survey was performed as part of the RFI to evaluate the extent of fill materials

at this location. In addition, a soil vapor survey was also conducted to evaluate the areal distribution of subsurface VOCs. The data obtained from these surveys was used to select

soil boring and monitoring well locations.

Five soil borings (SWMU 21/22-SB-1, 21/22-SB-2, 21/22-SB-3, 21/22-SB-4, and 21/22-SB-5) were completed, and a monitoring well (21/22-MW-1S) was installed at the location of

boring 21/22-SB-1 to evaluate the potential impacts at SWMUs 21 and 22.

RFI Results Summary:

The sludge had a residual pH value of 8.6, precluding dissolved metal transfer from the area via groundwater movement. The basins were reported to USEPA on June 8, 1981 in accordance with CERCLA reporting requirements using EPA Form 8900-1.

Subsurface soil analytical results indicate the presence of acetone (0.022 – .22 mg/kg), TCE (0.013 – 20. mg/kg), 1,1,1-TCA (0.008 mg/kg), carbon disulfide (0.007 mg/kg), 2-butanone (0.053 mg/kg), xylene (0.033 – 0.054 mg/kg), toluene (0.047 mg/kg), vinyl chloride (0.140 mg/kg), and 1,2-dichloroethylene (0.31 mg/kg). Only TCE and vinyl chloride greater than the Region V Data Quality Levels (DQLs) established in July 1994. The samples analyzed for VOCs required dilution due to matrix interferences. SVOCs were detected in concentrations ranging from 0.050 to 14 mg/kg. Detected SVOCs greater than the Region V DQLs comprise the following: benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd) pyrene, benzo(g,h,i)perylene, phenanthrene, and dibenzo(a,h)anthracene. TPH (230 – 7,700 mg/kg) and PCB (0.3 – 9 mg/kg) concentrations were below Region V DQLs.

Subsurface soils analytical results indicate detections greater than method detection limits of inorganics. Antimony (50 mg/kg), arsenic (6.2 – 9.6 mg/kg), beryllium (0.66 – 3 mg/kg), cadmium (42 – 210 mg/kg), cobalt (0.82 – 9.1 mg/kg), and nickel (4,600 -38,000 mg/kg) were detected greater than the Region V DQLs and calculated background levels. Barium, calcium chromium, copper, lead, magnesium, mercury, silver and zinc were also detected, but the concentrations were below Region V DQLs.

Groundwater collected from the monitoring well, 21/22-MW-1S was analyzed for VOC and PCB content. No constituents were detected above the laboratory's practical quantitation limits.

CMS Soil Pathway Summary:

The results of the CMS for these SWMUs indicated soil analytical results are greater than the CMO as follows:

- TPH (1,213 mg/kg) for two soil samples collected [SWMU 21/22-SB1(16-18 fbg) of 3,800 mg/kg and SWMU 21/22-SB2 (2-4 fbg) of 7,700 mg/kg)];
- Cyanide (442 mg/kg) for two soil samples collected SWMU 21/22-SB1 (16-18 fbg) of 1,400 mg/kg and (18-20 fbg) of 1,500 mg/kg; and



In addition to being greater than the CMOs, the above detections of TPH are greater than the Residential RSL [82 mg/kg (Aromatic low)] as follows: SWMU 21-SB1 (18-20 fbg) of 680 mg/kg and SWMU 21-SB2(16-18 fbg) of 230 mg/kg.

PCBs are greater than the Residential RSLs (0.24 mg/kg) for three samples collected: SWMU 21-SB1 16-18 fbg) of 3 mg/kg, 18-20 fbg) of 2.5 mg/kg and SWMU 21-SB2 (2-4 fbg) of 9 mg/kg.

VOCs and SVOCs are greater than the Residential RSLs as follows:

- TCE (0.94 mg/kg) for two soil samples collected from SWMU 21-SB1 (16-18 fbg) of 14 mg/kg and (18-20 fbg) of 20 mg/kg; and
- Vinyl chloride (0.059 mg/kg) for one sample collected at SWMU 16-SB2 (16-18 fbg) of 0.14 mg/kg.

SVOCs are greater than the Residential RSLs for one soil sample at SWMU 21-SB2 (2-4 fbg) as follows:

- Benzo(a) anthracene Residential RSL is 0.15 mg/kg, detection of 1.8 mg/kg;
- Benzo(a)pyrene Residential RSL is 0.015 mg/kg, detection of 0.97 mg/kg;
- Benzo(b)fluoranthene Residential RSL is 0.15 mg/kg, detection of 3.4 mg/kg;
- Dibenzo (a,h) anthracene Residential RSL is 0.015 mg/kg, detection of 0.37 mg/kg;
 and
- Ideno(1,2,3-cd) pyrene Residential RSL is 0.15, detection of 1.5 mg/kg.

Inorganics are greater than the Residential RSLs as follows:

 Arsenic Residential RSL is 0.68 mg/kg, each sample collected was greater than the Residential RSL.

These detections of arsenic are below the natural background concentration (12.9 mg/kg).

The detections of cyanide for two soil samples collected SWMU 21/22-SB1 (16-18 fbg) of 1,400 mg/kg and (18-20 fbg) of 1,500 mg/kg are greater than the Residential RSL (21 mg/kg).

The following samples are greater than the Residential RSL at one sample the SWMU21-SB-1 18-20 fbg) as follows:

- Antimony Residential RSL is 31 mg/kg; detection of 50 mg/kg;
- Cadmium Residential RSL is 70 mg/kg; detection of 210 mg/kg;
- Cobalt Residential RSL is 23 mg/kg; detection of 95 mg/kg;
- Copper Residential RSL is 3,100 mg/kg; detection of 5,100 mg/kg.

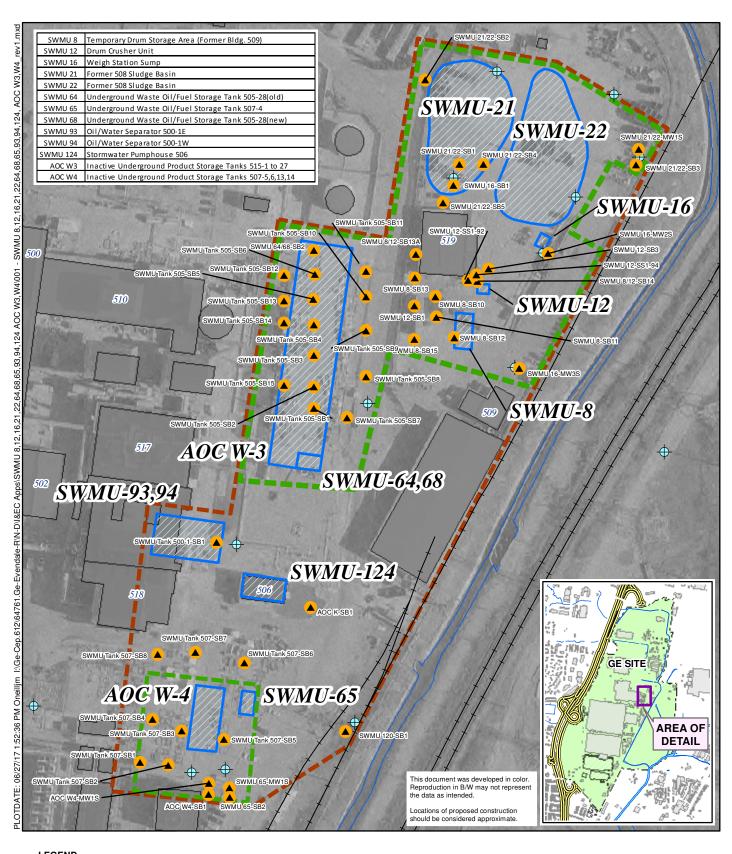
Of these samples, the following are greater than the natural background concentration range:

- Cadmium natural background range is 0.07-4.4 mg/kg, detection of 210 mg;
- Cobalt natural background concentration range 1.1-53.6 mg/kg; detection of 95 mg/kg;
- Copper natural background concentration range is 2.2-58 mg/kg; detection of 5,100 mg/kg.

The nickel Residential RSL is 1,500 mg/kg; three soil samples are greater than the Residential RSL: SWMU 21-SB1 (16-18 fbg) of 4,200 mg/kg, and SWMU 21-SB2 (16-18 fbg) of 4,600 mg/kg and SWMU-21/22-SB 1 (18-20 fbg of 38,000 mg/kg).

Exposure to COPCs at this SWMU can be managed with a restriction to industrial use and maintenance of a cover system in the area shown on the attached Figure.

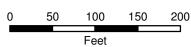




Approximate SWMU Area Existing Building Engineering Control Boundary Institutional Control Boundary Monitoring Well A RFI Soil Boring

MULTIPLE SWMUs / AOCs LOCATION MAP

GE EVENDALE, OHIO





June 2017

Screening of Detected Chemicals in Soil - SWMUs 21 and 22 GE Aviation - Evendale, Ohio

Sample ID: Sample Date:	Soil Corrective	Soil Background	Screening Value/Action Level ¹		21-SB1 93		21-SB2 193		21-SB3 993		21-SB4 993		21-SB5 993		22-MW-1S SB 993
Depth (ft bgs):	Measure Objectives (CMOs)	Concentration	USEPA Residential Soil RSLs	16-18	18-20	2-4	16-18	12-14	18-20	4-6	16-18	8-10	12-14	12-14	16-18
Volatile Organic Compounds															
1,1,1-Trichloroethane	na	na	8100												0.008
1,2-Dichloroethene (Total) ²	na	na	160				0.31								
1,4-Dichlorobenzene	na	na	2.6		0.98										
2-Butanone	na	na	27000										0.53		
Acetone	na	na	61000			0.044				0.028	0.022		0.22		
Carbon Disulfide	na	na	770								0.007				
Trichloroethene	44.9	na	0.91	14	20		0.1		0.13						
Vinyl chloride	35.9	na	0.059				0.14								
Xylenes (Total)	na	na	580									0.54	0.033		
Semivolatile Organic Compo	unds														
Acenaphthene	na	na	3600	-		0.4									
Anthracene	na	na	18000			0.5									
Benzo[a]anthracene	32.3	na	0.16			1.8									
Benzo[a]pyrene	3.23	na	0.016			0.97									
Benzo[b]fluoranthene	32.3	na	0.16			3.4									
Benzo[g,h,i]perylene	na	na				1.6									
Benzo[k]fluoranthene	na	na	1.6			1.1									
bis(2-Ethylhexyl)Phthalate	na	na	39	9.7	14		1.7								
Chrysene	na	na	16			1.8								-	
Dibenz[a,h]anthracene	na	na	0.016			0.37								-	
Fluoranthene	na	na	2400			2.2									
Indeno[1,2,3-cd]pyrene	32.3	na	0.16			1.5									
Phenanthrene	na	na				2.4									
Pyrene	na	na	1800			7									
Total Petroleum Hydrocarbor															1
TPH (Total) ³	1255	na	see note 2	3800	680	7700	230								
Polychloroniated Biphenyls															
PCBs (Total) ⁴	11.5	na	0.23	3	2.5	9	ı			-			3.0		
Metals	-					-		-		_		_		_	
Aluminum	na	na	77000	7500	5800	21000	3300	3530	3990	1740	8980	21200	20000	5600	2230
Antimony	na	na	31	25	50	10	19	10.6	11.8		10.4		3.1	9.2	10.5
Arsenic	21.5	12.9	0.68	3.3	2.1	5.5	1.3	9	1.9	0.89	3.4	9.6	6.5	6.2	0.85
Barium	na	na	15000	110	130	280	110	11.8	11.4	8.8	47.3	121	113	21.8	7.2
Beryllium	na	na	160			3		0.35	0.66	0.20	0.71	1.1	1.2	0.7	0.36
Cadmium	727	0.51	71	42	210	1.8	65					0.27	0.72		
Chromium (Total) ⁵	na	na	120000	760	4800	53	1300	19.3	26.5	11.3	253	24	30.3	19.1	6.3
Cobalt	220	6.4	23		95	12	12	2.5	3	0.82	3.7	7.5	9.1	6.1	1.3
Copper	29,495	11.8	3100	1400	5100	51	710	37.3							
Cyanide	442	na	23	1400	1500										
Lead	na	na	400	63	140	77	44	4.7	8.8	3.3	8.2	13.1	20.5	3.6	5.2
Manganese	16,604	459	1800	130	180	1600	110	255	173	31.1	279	207	351	150	124
Mercury	na	na	11	0.20											
Nickel	na	na	1500	4200	38000	63	4600	16.4	16.2		18.5	17.4	23.8	23.2	
Selenium	na	na	390	-										0.58	
Silver	na	na	390	-		2									
Thallium	na	na	0.78	-					0.11		0.12	0.24	0.17		
Vanadium	3662	17.4	390	17	18	26	16	15.6	16.6	4	22.1	37.9	36.3	19	11.8
Zinc	na	na	23000	400	3000	130	520	12.2	23.3	7.5	28.5	49.3	90.5	18.9	11.3

- Results and action levels are expressed in mg/kg.
- Analytical results are from the RCRA Facility Investigation Revised Draft Report (O'Brien & Gere 1995).
- '--' denotes non-detection.

'bgs' - below ground surface.

Shaded cells indicate concentrations above the May 2016 USEPA Residential Soil Screening Level.

- 1) USEPA Regional Screening Level (RSL) Residential (USEPA,May 2016);
- 2) The USEPA Residential RSLs do not have a screening value for total 1,2-dichloroethene, therefore the screening level for cis-1,2-dichloroethene has been substituted.

 3) The USEPA Residential RSLs for TPH ranges are: 82 mg/kg for TPH (Aromatic Low), 96 mg/kg for TPH (Aliphatic Medium), and 2,500 mg/kg for TPH (Aromatic High).
- 4) Residential RSL for PCBs (high risk) applied.
- 5) Residential RSL for trivalent chromium applied.

SWMU/AOC ID: SWMU-27 and 28 | Lime Precipitation Basin #1 and #2

Location: The cluster of five lime precipitation basins are located at the southeast portion of the site.

Basin #1 is the southeast basin and Basin #2 is the southwest basin.

Description: SWMU-27 is an irregularly shaped basin with an approximate surface area of 144,000

square feet by 8-ft deep. SWMU-28 is an irregularly shaped basin with an approximate surface area of 106,000 square feet and a depth of 8-ft. The basins are inactive but formerly received precipitate from the cold lime softening drinking water, blowdown from the boiler house water conditioning, and fly ash generated from coal burning. The basin was active from approximately 1958 to 1969. Fly ash generation ended in 1975. After dewatering, the material was periodically removed from the basin and worked into the adjacent farm land

(SWMU-19, East Land Farm).

Precipitate from the cold lime softening of drinking water consists primarily of calcium and magnesium carbonates. Boiler house blowdown consisted of water and the treatment

chemicals used prior to steam generation.

RFI Background: A nested shallow and deep well (Well ID: 27/28-MW-1S/1D) was installed in the

northeastern corner of the lime precipitation basins to assess possible sources of VOCs detected in previous groundwater sampling events. A single deep well (27/28-MW2D) was installed on the west side of basin #2, adjacent to GM-11S and GM-11P, to assess possible impacts from this area. Another deep well (27/31-MW5D) was installed along the edge of Basin #1, adjacent to the existing monitoring well GM-10S. Groundwater from the monitoring wells 27/28-MW1S, 27/28-MW1D, 27/28-MW2D, and 27/31-MW5D were

submitted for laboratory analysis.

One soil boring was completed in the vicinity of Basins #1 and #2. Subsurface soil samples from the boring (SWMU 27/28-SB1) and the monitoring well installation (27/28-MW1S)

were submitted for laboratory analysis for VOCs, SVOCs, TPHs, and inorganics.

RFI Results Summary:

Analytical results indicate concentrations of acetone (0.031 - .15 mg/kg), 1,1,1-TCA (0.2 mg/kg), TCE (0.073 mg/kg), 2-butanone (0.014 - 0.018 mg/kg), methylene chloride (0.008 - 0.017 mg/kg), benzene (0.019 mg/kg) and toluene (0.066 mg/kg) are present in surface soils.

SVOCs were detected in two of eight soil borings at concentrations of 0.72 mg/kg and 1.2 mg/kg. SVOC method detection limits were elevated due to sample dilution. Inorganics were also detected in subsurface soil samples, but only beryllium was detected at a concentration greater than calculated background levels and Region V Data Quality Levels (DQLs) from July 1994. However, correspondence from GE to the USEPA, dated May 26, 1993, indicates samples from the area of several piles of ash material at SWMU 29 contained levels of cadmium greater than TCLP criteria. This area was subsequently targeted for surface soil samples. No detectable concentrations of inorganics were found above Region V DQLs.

Deep monitoring well samples indicate the presence of acetone (320 μ g/l), ethylbenzene (22 μ g/l), benzene, (33 – 180 μ g/l), xylene (36 μ g/kg), toluene (9 μ g/kg), and chloroethane (11 μ g/kg). Although the concentration of benzene is greater than the Region V DQLs, the source of benzene is not believed to be from the Lime Precipitation Basins.

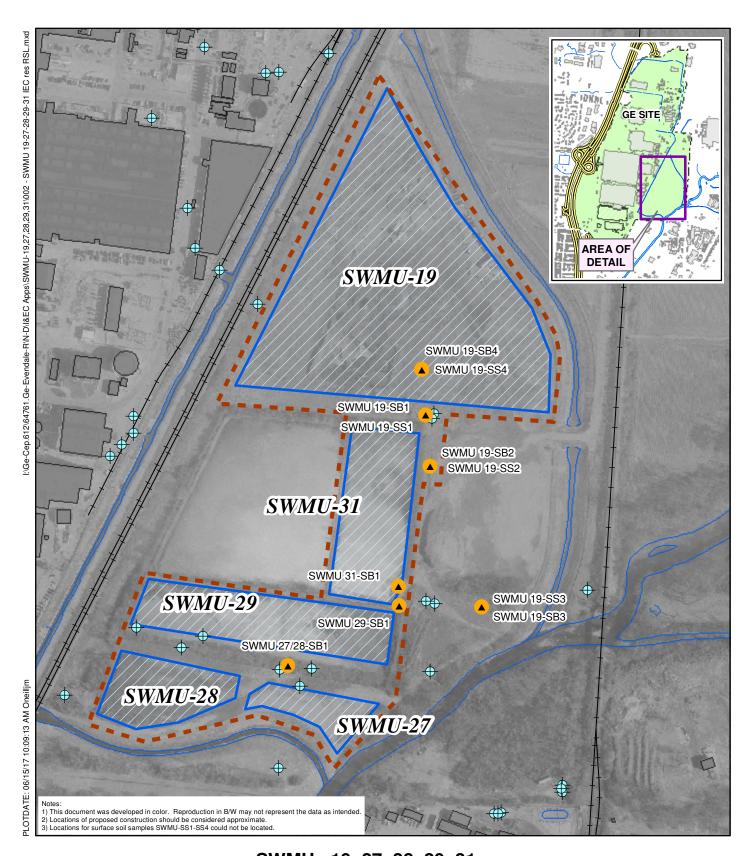
CMS Soil Pathway Summary:

The results of the CMS for this SWMU indicated soil analytical results are below the CMO for VOCs, SVOCs and arsenic (21.5 mg/kg) however, two detections of arsenic are greater than the Residential RSL (0.68 mg/kg) collected from one soil boring: SWMU 27/28-SB1 (6-8 fbg)



of 20 mg/kg and (12-14 fbg) of 13 mg/kg. These detections for arsenic are also greater than the natural background concentration of 12.9 mg/kg.

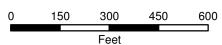
Exposure to COPCs at these SWMUs can be managed with restriction to industrial use of the area shown in the attached Figure.



LEGEND Approximate SWMU Area Institutional Control Boundary

SWMUs 19, 27, 28, 29, 31 EAST LANDFARM & LIME PRECIPITATION BASINS

GE EVENDALE, OHIO





Monitoring Well

RFI Soil Boring

SWMU/AOC ID: SWMU-29 | Lime Precipitate Basin #3

Location: The cluster of five lime precipitation basins are located in the southeast portion of the site.

Basin #3 is the middle basin.

Description: SWMU-29 is an irregularly shaped basin measuring approximately 190-ft by 815-ft by 10-ft

deep. The basin receives precipitate from the cold lime softening drinking water, blowdown from the boiler house water conditioning, and fly ash generated from coal burning. The basin has been active since approximately 1958. Fly ash generation ended in 1975. After dewatering, the material was periodically removed from the basin and worked into the

adjacent land farm.

Precipitate from the cold lime softening of drinking water consists primarily of calcium and magnesium carbonates. Boiler house blowdown consisted of water and the treatment

chemicals used prior to steam generation.

Background: A nested shallow and deep well (Well ID: 27/28-MW-1S/1D) were installed in the

northeastern corner of the lime precipitation basins to assess possible sources of VOCs detected in previous groundwater sampling events. A single deep well (Well ID: 27/28-MW2D) was installed on the west side of basin #2, adjacent to GM-11S and GM-11P, to assess possible impacts from this area. Another deep well (Well ID: 27/31-MW5D) was installed along the edge of Basin #1, adjacent to the existing monitoring well GM-10S. Groundwater from the monitoring wells 27/28-MW1S, 27/28-MW1D, 27/28-MW2D, and

27/31-MW5D were submitted for laboratory analysis.

One soil boring was completed northeast of Basin #3. Subsurface soil samples from the boring (29-SB1) were submitted for laboratory analysis for VOCs, TPH, and inorganics.

Subsurface soil data from boring analysis detected arsenic, beryllium and cobalt at a level greater than Region V Data Quality Limits (DQLs) from July 1994. However, correspondence from GE to the USEPA, dated May 26, 1993, indicates samples from the area of several piles of ash material at SWMU 29 contained levels of cadmium greater than TCLP criteria. This area was subsequently targeted for surface soil samples. Surface soil samples (SS1, SS2, SS3, and SS4) were collected from the vicinity of SWMUs 29 and 30 and submitted to a laboratory for analysis.

RFI Results Summary:

Analytical results indicate concentrations of acetone (0.031 - 0.15 mg/kg), methylene chloride (0.010 - 0.017 mg/kg), TPH (170 mg/kg) and metals present in subsurface soils.

Deep monitoring well groundwater samples indicate the presence of acetone (320 μ g/l), ethylbenzene (22 μ g/l), benzene, (33 – 180 μ g/l), xylene (36 μ g/kg), toluene (9 μ g/kg), and chloroethane (11 μ g/kg). Although the concentration of benzene was greater than the Region V DQLs, the source of benzene is not believed to be from the Lime Precipitation Basins.

CMS Soil Pathway Summary:

The results of the CMS for this SWMU indicated the soil analytical results are below the CMO for VOCs. The detection of one soil sample is greater than the CMO for TPH [(82 mg/kg (Aromatic low)] at SWMU 29 SB-1 (8-10 fbg) of 170 mg/kg. Two detections of arsenic are greater than the CMO (21.5 mg/kg) at SWMU 29 SS-1 (23.3 mg/kg and SWNU 29 SS-4 (230 mg/kg).

The following detections of metals are greater than the Residential RSL:

Arsenic (0.68 mg/kg) at SWMU 29 SB-1 (2-4 fbg) of 4.5 mg/kg and (10-12 fbg) of 5.4 mg/kg), SWMU 29 SS-1 (0-0.5 fbg) of 23.3 mg/kg, SWMU SS-2 (0-0.5 fbg) of 1.8



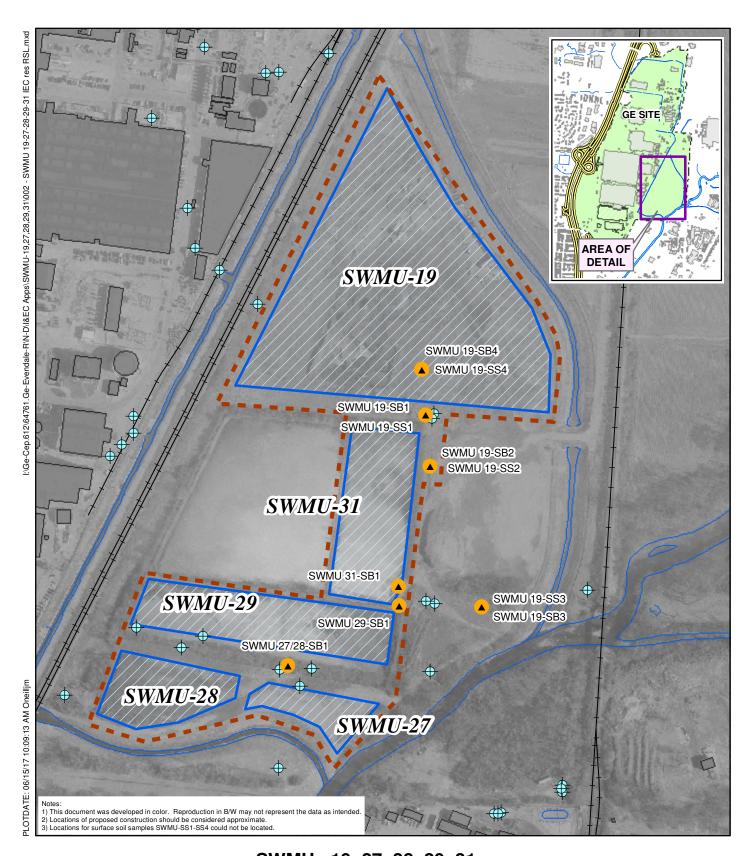
mg/kg, SWMU SS-3 (0-0.5 fbg) of 13.7 mg/kg, and SWMU SS-4 (0-0.5 fbg) of 230 mg/kg;

- Cobalt (23 mg/kg) at SWMU SS-4 (0-0.5 fbg) of 25.5 mg/kg;
- Lead (400 mg/kg) at SWMU SS-4 (0-0.5 fbg) of 3,540 mg/kg;
- Manganese (1,800 mg/kg) at SWMU SB-1 (10-12 fbg) of 2,500 mg/kg;
- Vanadium (390 mg/kg) at SWMU SS-4 (0-0.5 fbg) of 1,570 mg/kg.

The detections of arsenic at three locations are greater than the natural background concentration (12.9 mg/kg) at SWMU 29 SS-1 (0-0.5 fbg) of 23.3 mg/kg, SWMU SS-3 (0-0.5 fbg) of 13.7 mg/kg, and SWMU SS-4 (0-0.5 fbg) of 230 mg/kg. The detection of manganese is greater than the natural background concentration (459 mg/kg) and the detection of vanadium is greater than the natural background concentration (17.4 mg/kg).

Exposure to COPCs at this SMWU can be managed with restriction to industrial use of the area shown in the attached Figure.

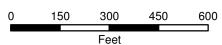




LEGEND Approximate SWMU Area Institutional Control Boundary

SWMUs 19, 27, 28, 29, 31 EAST LANDFARM & LIME PRECIPITATION BASINS

GE EVENDALE, OHIO





Monitoring Well

RFI Soil Boring

SWMU/AOC ID: SWMU-31 | Lime Precipitation Basin #5

Location: The cluster of five lime precipitation basins are located at the southeast portion of the site.

Basin #5 is the northwest basin.

Description: SWMU-31 is a lime precipitation basin measuring approximately 536-ft by 222-ft by 10-ft

deep. The basin receives precipitate from the cold lime softening drinking water and blowdown from the boiler house water conditioning. The basin has been active since approximately 1975. Fly ash generation ended in 1975. After dewatering, the material was periodically removed from the basin and worked into the adjacent farm land (SWMU-19,

East Land Farm).

Precipitate from the cold lime softening of drinking water consists primarily of calcium and magnesium carbonates. Boiler house blowdown consisted of water and the treatment

chemicals used prior to steam generation.

RFI Background: A nested shallow and deep well (27/28-MW-1S/1D) were installed in the northeastern corner of the lime precipitation basins to assess possible sources of VOCs detected in

previous groundwater sampling events. A single deep well (27/28-MW2D) was installed on the west side of basin #2, adjacent to GM-11S and GM-11P, to assess possible impacts from this area. Another deep well (27/31-MW5D) was installed along the edge of Basin #1, adjacent to the existing monitoring well GM-10S. Groundwater from the monitoring wells

27/28-MW1S, 27/28-MW1D, 27/28-MW2D, and 27/31-MW5D were submitted for laboratory analysis

laboratory analysis.

One soil boring was completed in the vicinity of Basins #5. Subsurface soil samples from the boring (SWMU 31-SB1) were submitted for laboratory analysis for VOCs, SVOCs, TPHs, and

inorganics.

RFI Results Summary:

Analytical results indicate concentrations of acetone (0.096 – 0.14 mg/kg), 2-butanone (0.018 mg/kg), and methylene chloride (0.008 – 0.01 mg/kg) are present in subsurface soils.

Pyrene was detected in the soil boring at a concentration of 0.81 mg/kg. SVOC method detection limits were elevated due to sample dilution. Inorganics were also detected in subsurface soil samples, but only beryllium was detected at a concentration greater than calculated background levels and Region V Data Quality Levels (DQLs) from July 1994. However, correspondence from GE to the USEPA, dated May 26, 1993, indicates samples from the area of several piles of ash material at SWMU 29 contained levels of cadmium greater than TCLP criteria. This area was subsequently targeted for surface soil samples. No detectable concentrations of inorganics were found above Region V DQLs.

Groundwater samples from the deep monitoring well indicate the presence of acetone (320 $\mu g/l)$, ethylbenzene (22 $\mu g/l)$, benzene, (33 – 180 $\mu g/l)$, xylene (36 $\mu g/kg)$, toluene (9 $\mu g/kg)$, and chloroethane (11 $\mu g/kg)$. Although the concentration of benzene was greater than the Region V DQLs, the source of benzene is not believed to be from the Lime Precipitation Basins.

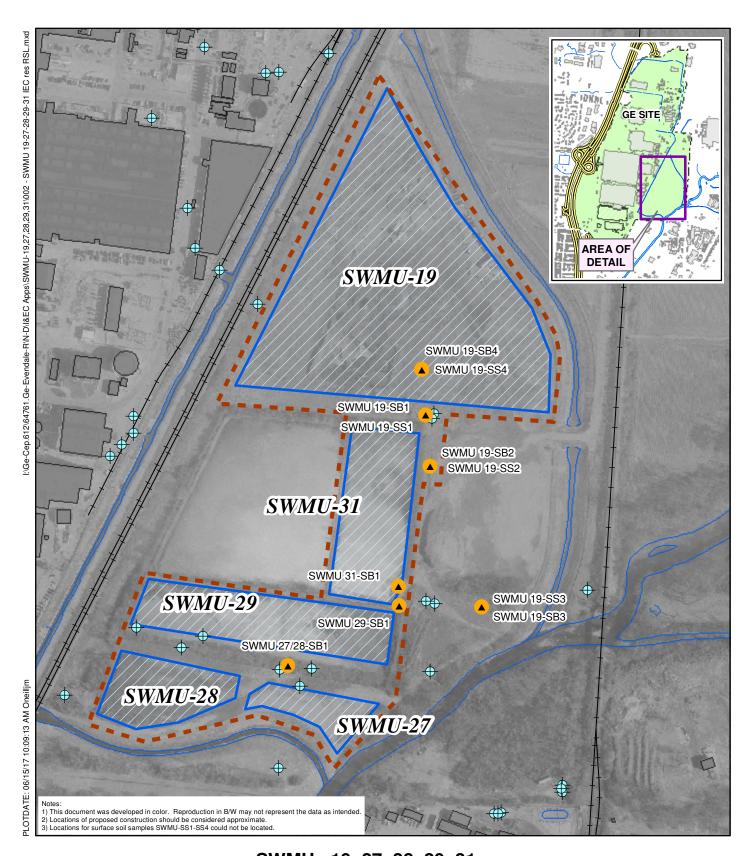
CMS Soil Pathway Summary:

The results of the CMS for this SWMU indicated soil analytical results are below the CMO for TPH (1,213 mg/kg) and arsenic (21.5 mg/kg) however, the two soil samples (4-6 fbg and 10-12 fbg) collected exhibit detections of TPH greater than the Residential RSL [82 mg/kg (Aromatic low)] of 160 mg/kg and 780 mg/kg, respectively, and the two detections of arsenic are greater than the Residential RSL (0.68 mg/kg) of 2.9 mg/kg and 8.5mg/kg, respectively. These arsenic detections are below the natural background concentration (12.9 mg/kg).



Exposure to COPCs at these SWMUs can be managed with restriction to industrial use of the area shown in the attached Figure.

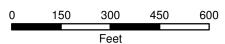




LEGEND Approximate SWMU Area Institutional Control Boundary

SWMUs 19, 27, 28, 29, 31 EAST LANDFARM & LIME PRECIPITATION BASINS

GE EVENDALE, OHIO





Monitoring Well

RFI Soil Boring

SWMU/AOC ID: SWMU-79 | Former Building 800 Wastewater Pretreatment System

Location: The former wastewater pretreatment system was located in the basement of the northwest

corner of Building 800; in the general location of the rinse water and waste alkali/acid tanks

of the active building metal removal system.

Description: SWMU-79 managed plating and cleaning solutions including chromic acid. Wastewater

pretreatment included chromium reduction and neutralization. Treated effluent was discharged to the Metropolitan Sewer District of Hamilton County POTW. The system had an approximate treatment capacity of 1,500-gallons, and was in use from approximately the

mid-1950s through 1972.

The system was located at basement level, on an unsealed concrete pad. The concrete pad contained eight sumps that were previously used to drain process overflows to a 2,000 gallon neutralization basin. The system has been sealed since its use ended; however, chemicals may have reached the basement floor area during use of the system. These chemicals include varying amounts of sodium hydroxide, sodium glucomater, potassium permanganate, hydrochloric acid, nitric acid, acetic acid, phosphoric acid, ammonium

bifluoride, and trace metals from solutions containing chromium and nickel.

Background: Soil samples were collected from beneath the existing Building 800 floor slab to characterize

the nature and extent of releases prior to construction of a liner system within the basement of the building to provide secondary containment. The integrity of one of the system sumps was observed to be of potentially questionable integrity prior to sample collection. Nine holes were cored through the floor, and nine shallow soil samples were collected and submitted to a laboratory for inorganics analysis. The sampling was conducted in accordance with the USEPA-approved Building 800 Wastewater Pretreatment System

Basement Sampling Plan.

RFI Results Summary:

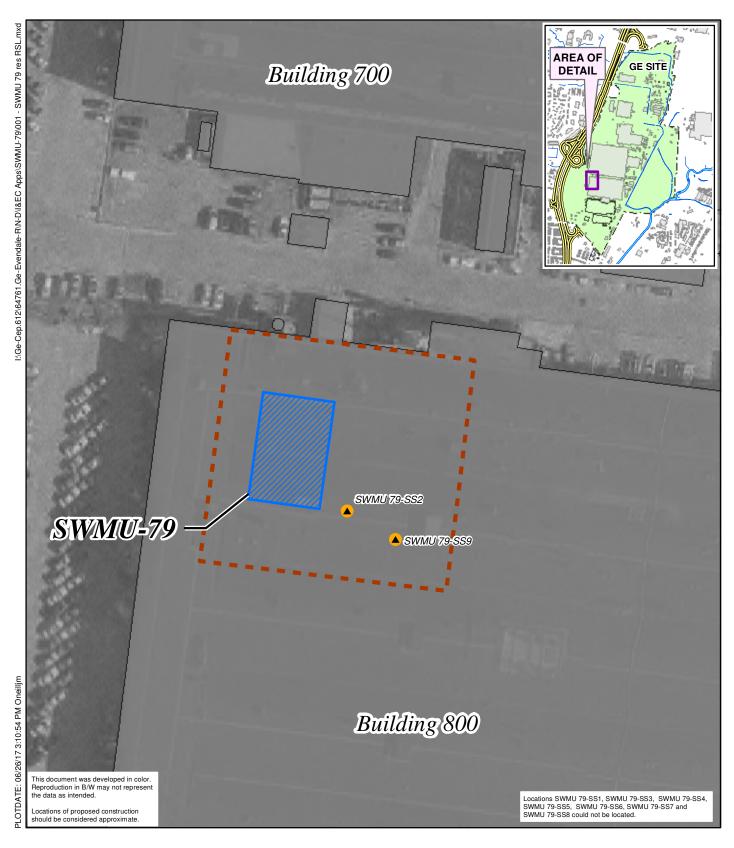
Analytical results indicate the presence of various metals including arsenic, beryllium, cadmium and cobalt. Beryllium, cadmium and cobalt concentrations (0.9 mg/kg, 320 mg/kg, and 38 mg/kg, respectively) greater than the Region V Data Quality Limits (DQLs) for soils from July 1994.

CMS Soil Pathway Summary:

The results of the CMS for this SWMU indicated the soil analytical results are below the CMO for arsenic, beryllium, cadmium, and cobalt. The detections for all the samples analyzed are greater than the Residential RSL (0.68 mg/kg), however, these results are below the natural background (12.9 mg/kg). The results for beryllium are below the Residential RSLs, however, the detection of cadmium [SWMU 79-SS1 (0-0.5 fbg) of 320 mg/kg is greater than the Residential RSLs. This detection of cadmium is greater than the natural background concentration range of 0.07-4.4 mg/kg. Cobalt was detected greater than the Residential RSL (23 mg/kg) at one location [SWMU 79-SS8 (0-0.5 fbg)] of 38 mg/kg. This detection of cobalt is greater than the natural background (6.4 mg/kg)]

Exposure to COPCs at this SMWU can be managed with restriction to industrial use of the area shown in the attached Figure.

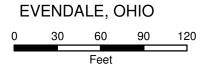




LEGEND SWMU 79 - FORMER BLDG. 800 WASTEWATER PRETREATMENT SYSTEM Institutional Control Existing Building GΕ



RFI Soil Boring (Sample locations SS-1 through SS-9 are shown in the RFI within the two locations shown)







SWMU/AOC ID: SWMU-87 and SWMU-88 Oil/Water Separator 303-1 and 303-3

Location: On the northwest side of Building 303.

Description: SWMU-87 (303-1) is an active 1,900-gallon underground oil/water separator that was

installed in 1952. The unit is used to gravity separate wastewater and waste hydrocarbons from non-process wastewater drainage received from Buildings 302 and 303. Wastewater from the unit is discharged to the process sewers or the on-site drainage ditch. Non-process wastewater is managed in this unit. Periodically, collected oils/fuels and sediments are

removed by a vacuum truck for disposal.

SWMU-88 (303-3) is an identical oil/water separator located adjacent to this unit.

Background: The 1989 RCRA Facility Assessment (RFA) performed by AT Kearney, Inc. designated

Oil/Water Separator 303-1 as SWMU 87. The RFA recommended sampling at the oil/water separator based on the potential for soil/groundwater impacts due to the unknown integrity

of the unit.

An evaluation of site oil/water separators was performed in 1994. Oil/Water Separator 303-1 was identified as a unit which could have potentially received spills from chlorinated solvents. The evaluation considered available analytical data from sediments or oils removed from the separators, the type of waste water received, activities performed in the separator drainage area, and the current status of the unit. Although the separator reportedly collected non-process wastewater, characterization data from an oil sample collected on March 12, 1993 indicated the presence of 1,1,1-TCA at 1,050 mg/kg. Therefore, the area downgradient of SWMUs 87 and 88 was targeted for further investigation under Phase II of the RFI program.

The area downgradient of Oil/Water Separator 303-1 was subsequently investigated under the RFI program to assess soil impacts from VOCs, PCBs, TPH, and inorganic compounds. The unit is located in an area with equipment and overhead obstructions preventing the installation of monitoring wells or investigation of soils along the unit's conveyance system. Therefore, a single soil boring was advanced near the oil/water separator with a portable drill rig. The boring was advanced to 14 feet, the safe operable limits of the drill rig. Subsurface soil samples were collected and submitted for laboratory analysis.

RFI Results Summary:

Analytical results indicate concentrations of acetone (0.013 mg/kg), cobalt (3.3 - 7.2 mg/kg), arsenic (6.5 - 7 mg/kg), PCBs (1.53 mg/kg), and TPH (100 - 120 mg/kg) were detected in subsurface soil samples. Cobalt and arsenic concentrations were greater than the Region V Data Quality Limits (DQLs) from July 1994 for soils.

CMS Soil Pathway Summary:

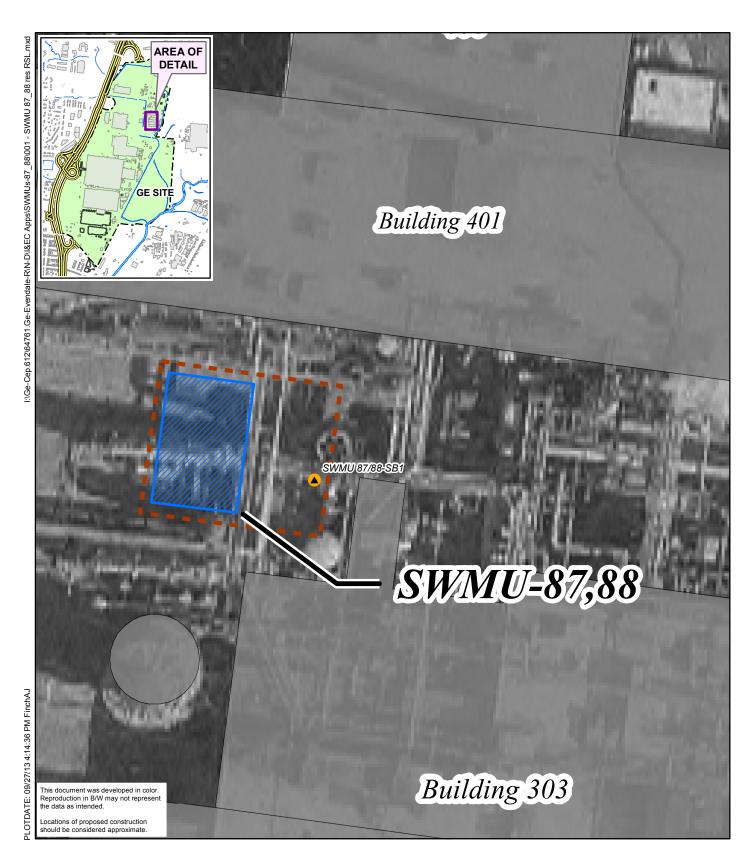
The results of the CMS for this SWMU indicated the soil analytical results are below the CMO for VOCs, TPH (1,213 mg/kg) and arsenic (21.5 mg/kg) and cobalt (220 mg/kg). The results for TPH are greater than the Residential RSL [82 mg/kg (Aromatic low)] at both of the soil sample locations SWMU 87/88 (2-4 fbg) of 120 mg/kg and (12-14 fbg) of 100 mg/kg. Detections of arsenic are greater than the Residential RSL (0.68 mg/kg) for the soil samples



analyzed: SWMU 87/88 (2-4 fbg) of 7 mg/kg and (12-14 fbg) of 6.5 mg/kg. These arsenic detections are below the natural background concentration (12.9 mg/kg).

The detection of PCBs at SWMU 87/88-SB1 (2-4 fbg) of 1.53 mg/kg is greater than the Residential RSL of 0.23 mg/kg.

Exposure to COPCs at this SMWU can be managed with restriction to industrial use of the area shown in the attached Figure.

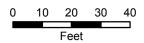


FGEND



SWMU 87/88 - OIL/WATER SEPARATOR 303-1 & 303-3

GE EVENDALE, OHIO







SWMU/AOC ID: SWMU-93 and SWMU-94 Oil/Water Separator 500-1W and 500-1E

Location: Adjacent to the 506 Storm Water Pumping Station (SWMU 124).

Description: SWMU-93 and SWMU-94 are active 20,000-gallon oil/water separators that were installed

in 1943. The unit is used to gravity separate wastewater and waste hydrocarbons from storm water and Building 500 test cells non-process water. The separators discharge water to either the 506 or the 423 Storm Water Pumping Stations. Periodically, collected oils/fuels

and sediments are removed by a vacuum truck for disposal.

Background: The 1989 RCRA Facility Assessment (RFA) performed by AT Kearney, Inc. designated

Oil/Water Separator 500-1W as a SWMU. The RFA recommended sampling at the oil/water separator based on the potential for soil/ground water impacts due to the unknown

integrity of the unit.

An evaluation of site oil/water separators was performed in 1994. The evaluation considered available analytical data from sediments or oils removed from the separators, the type of waste water received, activities performed in the separator drainage area, and the current status of the unit. The evaluation report indicated that a monitoring well was installed downgradient of the unit to assess potential soil and groundwater impacts.

The monitoring well was installed as part of the RFI program. Subsurface soil and groundwater samples were collected from the shallow groundwater monitoring well (MW-2S) and submitted for laboratory analysis for VOCs, TPH, PCBs, and inorganic compounds.

RFI Results Summary:

Analytical results from the subsurface soil samples indicate the presence of acetone (0.49 – 0.740 mg/kg), benzene (0.048 – 0.16 mg/kg), ethylbenzene (0.075 mg/kg), beryllium (1.1 – 1.2 mg/kg), arsenic (7.3 mg/kg), cobalt (6.9 – 9.2 mg/kg), and TPH (430 – 480 mg/kg). Detected inorganic compound (beryllium, arsenic, and cobalt) concentrations greater than the Region V Data Quality Limits (DQLs) for soils from July 1994.

Analytical data indicates the presence of PCBs (0.00072 mg/kg) and TPH (180 mg/kg) in the groundwater sample from MW-2S.

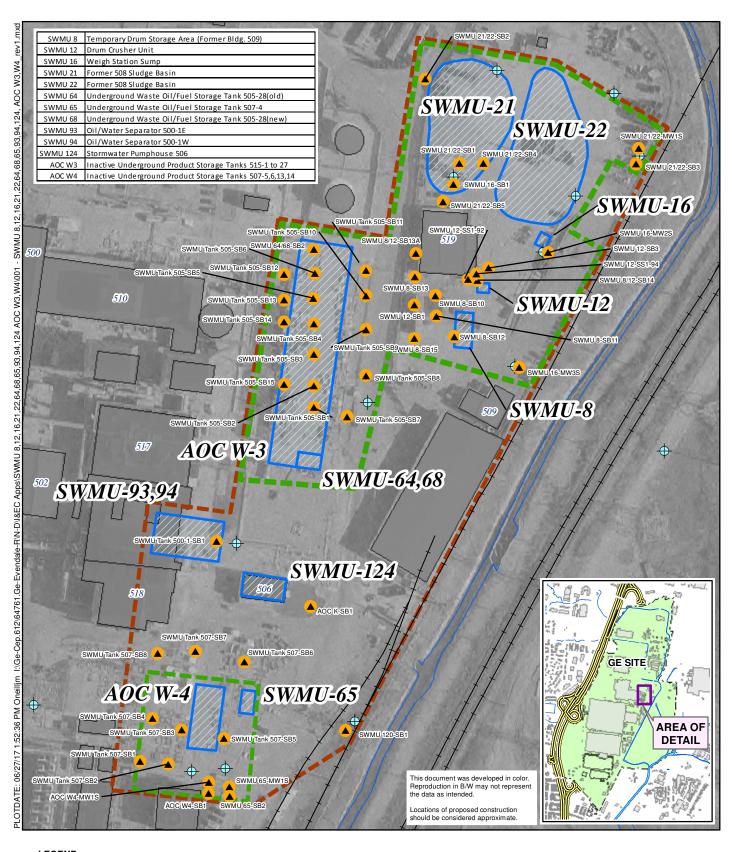
CMS Soil Pathway Summary:

The results of the CMS for these SWMUs indicate the soil analytical results are below the CMO for TPH (1,213 mg/kg), however, two detections of TPH are greater than the Residential RSLs [(82 mg/kg (Aromatic low)] collected from SWMU 93/94-MW2S (8-10 fbg) of 480 mg/kg and (14-16 fbg) of 430 mg/kg. Detections of arsenic are below the CMO (21.5 mg/kg), however, two detections of arsenic are greater than the Residential RSLs (0.68 mg/kg) at one soil boring location: SWMU93/94-MW2S (8-10 fbg) of 7.3 mg/kg and (14-16 fbg) of 7.3 mg/kg. These detections of arsenic are below the natural background concentration (12.9 mg/kg).

VOCs are below the CMO and the Residential RSLs.

Exposure to COPCs at this SMWU can be managed with restriction to industrial use of the area shown in the attached Figure.

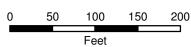




Approximate SWMU Area Existing Building Engineering Control Boundary Institutional Control Boundary Monitoring Well A RFI Soil Boring

MULTIPLE SWMUs / AOCs LOCATION MAP

GE EVENDALE, OHIO





SWMU/AOC ID: SWMU-98/99 Oil/Water Separator 703-1E and 703-1W

Location: Along the east side of Building 703.

Description: SWMUs-98/99 are active, 20,000-gallon underground oil/water separators used to gravity

separate wastewater and waste hydrocarbons prior to discharge of the wastewater to the process sewers or the on-site drainage ditch. The units were installed in 1943. Non-process wastewater is managed by these units. Periodically, collected oils/fuels and sediments were

removed by a vacuum truck for disposal.

Background: The 1989 RCRA Facility Assessment (RFA) performed by AT Kearney, Inc. designated these

Oil/Water Separators as a SWMUs. The RFA recommended sampling at the oil/water separators based on the potential for soil/groundwater impacts due to the unknown

integrity of the units.

An evaluation of site oil/water separators was performed in 1994. The evaluation considered available analytical data from sediments or oils removed from the separators, the type of waste water received, activities performed in the separator drainage area, and the current status of the unit. Prior to the evaluation these oil/water separators and the tributary drainage network had been subject to the remedial efforts for PCB removal under TSCA. A shallow groundwater monitoring well, 703-1WMW-1S, was installed downgradient of SWMUs 98 and 99 under the Phase II RFI program to assess potential soil and ground water impacts. Extensive cleaning and televising of the tributary pipelines was performed and indicated adequate integrity of the piping systems. Therefore, the 1994 evaluation concluded that additional sampling of soils along the pipelines was not recommended.

RFI Results Summary:

Subsurface soil and groundwater samples from the monitoring well were analyzed for VOCs, TPH, inorganics, and PCBs as part of the RFI program.

Soil analytical data from the monitoring well installation indicates that detectable concentrations of 1,1,1-TCA (0.020-0.053~mg/kg), TCE (0.29-0.77~mg/kg), arsenic (2.6-2.9~mg/kg), cobalt (1.5-2.1~mg/kg), and TPH (64-130~mg/kg) were found in subsurface soils. Arsenic and cobalt levels were greater than the Region V Data Quality Limits (DQLs) for soil from July 1994.

Water analytical data showed that 1,1,1-TCA (10 μ g/l), TCE (93 μ g/l), chromium (195 μ g/l), cobalt (19.4 μ g/l), lead (50.5 μ g/l), and TPH (1 mg/l) were present in the groundwater from MW-1S. Concentrations of chromium, TCE, cobalt, and lead were greater than the Region V DQLs for water.

CMS Soil Pathway Summary:

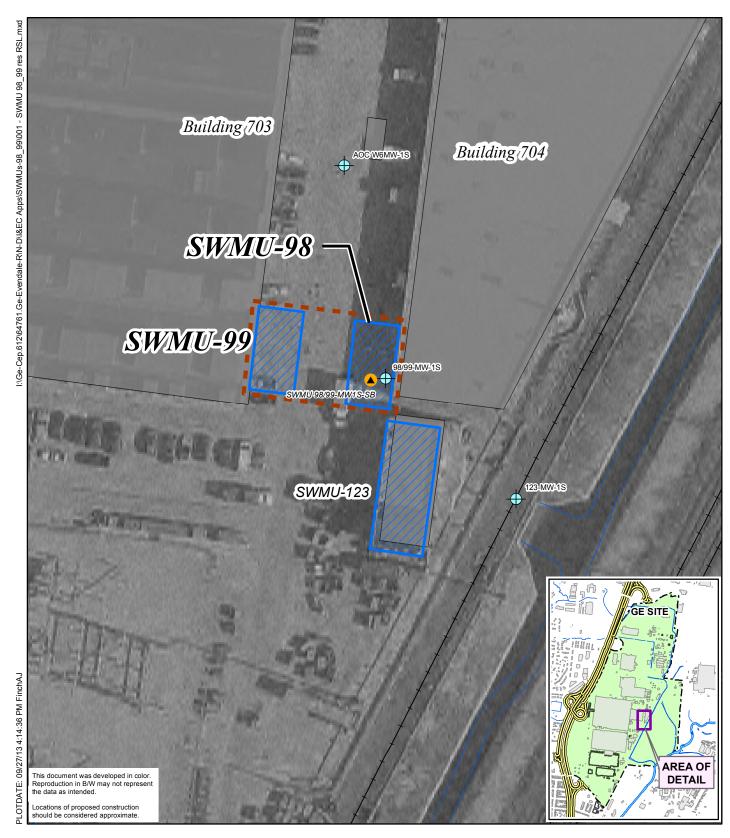
The results of the CMS for these SWMUs indicate the soil analytical results are below the CMO for VOCs, TPH, arsenic and cobalt. However, one detection of TPH is greater than the Residential RSL [(82 mg/kg (Aromatic low))] collected from SWMU 98/99 MW-1S SB (12-14 fbg) of 130 mg/kg and arsenic detections greater than the Residential RSL (0.68 mg/kg) for the two samples collected in SWMU 98/99 MW1S SB (12-14 fbg) of 2.6 mg/kg and (14-16 fbg) of 2.9 mg/kg. These detections of arsenic are below the natural background concentration (12.9 mg/kg).

VOCs are below the Residential RSLs.

Exposure to COPCs at these SMWUs can be managed with restriction to industrial use of the area shown in the attached Figure.

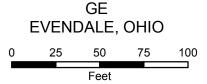


DRAFT FIGURE





SWMU 98/99 - OIL/WATER SEPARATOR 703-1E and 703-1W







SWMU/AOC ID: SWMU-118; SD-23 | Process Sewer System – Sanitary Sewer (Bldgs B, C, D)

Location: Below grade, throughout the GE site near Buildings B, C, and D.

Description: SWMU-118 is the sanitary sewer system located throughout the facility and consisting of

underground piping and manholes which convey sanitary wastewater to the municipal sewer system. This unit has been active since 1943 and conveys non-contact wastewater

and ECM-electrolyte to the POTW. The sewer piping is made of closed steel pipes.

RFI Background: The 1989 RCRA Facility Assessment (RFA) performed by AT Kearney, Inc. designated this

sewer system as a SWMU. The RFA concluded that there is an unknown potential for releases to soil, ground water, and subsurface gas due to the sewer's location below ground, time in service, unknown integrity, and the organic nature of wastes managed. There are low release potentials to air due to the sewer's underground location and closed design. The RFA also indicated there is an unknown release potential to surface water due to the sewer's location, length of service and unknown integrity, and a moderate potential for cross-media

contamination from the shallow aquifer.

Sewer lines near Buildings C and F were targeted for sediment sampling because they historically received outflow from various process streams. Sediment samples (SD-23-001, SD-23-003, and SD-23-005) were collected from three manhole sites and analyzed for VOCs, PCBs, and inorganics. Four other proposed sampling locations in this area were eliminated

due to insufficient sediment for sampling.

RFI Results Summary:

Samples SD-23-001 and SD-23-003 were collected from locations accessed by manholes located along the south side of Building C. Sample SD-23-001 consisted of rock fragments, and sample SD-23-003 was a composite of multiple subsamples. The first subsample was dark brown sand, the second subsample was a congealed black and yellow substance, and the subsequent subsamples appeared to be black organic material that was partially congealed.

Sample SD-23-005 was collected from a manhole near the southwest corner of Building F. The sample appeared to be from a holding tank for raw sewage, and contained paper, cigarettes, and fecal material floating on a thin layer of water.

Soil analytical results indicate detected concentrations of acetone (17 – 100 $\mu g/kg$), 2-butanone (20 $\mu g/kg$), and PCBs (0.596 – 1.502 mg/kg). None of the detected concentrations were greater than the Region V Data Quality Limits (DQLs). Inorganic compounds were not detected in the samples above action levels.

CMS Soil Pathway Summary:

SWMU 118 (IRP Site SD-23) (Process Sewer System – Sanitary Sewer) was investigated during the RFI, through the abovementioned sampling, and it was concluded that the sanitary sewers were not a significant source of impact to soils or groundwater. This conclusion was based on the RFI results as well as the periodic monitoring by GE for compliance with the sewer use ordinance. Due to its location on USAF Former AFP36, the 1995 RFI recommended further action under the USAF Installation Restoration Program (IRP). In 2000, USAF concluded that reported PCB concentrations (0.596 to 1.502 mg/kg) were below USEPA Region III risk-based concentrations for industrial soil and no further action was recommended (Earth Tech, 2000).

The results of the CMS for this SWMU indicated two soil analytical results above the CMO for metals (arsenic and lead) at one of the sampling locations (SD-23-003). At this sample location, arsenic was detected at 27.1 mg/kg and lead was detected at 1,100 mg/kg.



In addition to the above sample with concentrations greater than the arsenic and lead CMO, there were also sediment samples with results greater than Residential RSL as follows:

- PCBs were detected greater than the Residential RSLs in sediment samples from the three locations (SD-23-001, SD-23-003, and SD-23-005) and include:
 - » The Arochlor-1248 Resident RSL is 0.23 mg/kg; sediment concentration of the Arochlor in sample SD-23-005 was 0.623 mg/kg.
 - » The Arochlor-1254 Resident RSL is 0.24 mg/kg; sediment concentrations of this Arochlor in samples SD-23-001 and SD-23-003 were 0.596 mg/kg and 1.502 mg/kg, respectively.
- Metals concentrations were compared with Resident RSLs and/or natural background concentrations; with highlights as follows:
 - » The three sediment sample results were greater than the Resident RSLs for arsenic (0.68 mg/kg), one of which was greater than the natural background concentration for arsenic (12.9 mg/kg). Arsenic concentrations in the other two samples were below the background concentrations (<15 mg/kg) established during the 1995 RFI.
 - » The cobalt Resident RSL is 23 mg/kg; sediment concentration of cobalt in sample SD-23-003 was 138 mg/kg. Cobalt concentrations in the other two samples were below the background concentrations (<16 mg/kg) established during the 1995 RFI.
 - » The lead Resident RSL is 400 mg/kg; sediment concentration of lead in sample SD-23-003 was 1310 mg/kg. The lead concentration in sample SD-23-001 was 50.5 mg/kg, which is greater than the natural background concentration for lead (32.9 mg/kg) and the background concentrations (<29 mg/kg) established during the 1995 RFI. The other sediment sample showed lead concentrations less than background concentrations (<29 mg/kg) established during the 1995 RFI.</p>

The general topography at the Facility ranges from approximately 565 feet (ft) mean sea level (msl) in the area north of Building 200 to approximately 556 ft msl at the southeastern end of the Facility. Sanitary wastewater from the entire Facility follows this north-south topographic orientation, flowing into two 18-inch diameter lined reinforced concrete pipe (RCP) sewer lines in the southeast area of the Facility on former AFP 36 prior to discharge to the local POTW. During the RFI, sanitary sewer lines near Buildings C and F on the former USAF Plant 36 (AFP 36) property were targeted for sediment sampling because they historically received outflow from various process streams. The sanitary sewer system and sampling locations for SWMU 118 (SD-23) are show in the attached figure. The sewer line near Building C and F is located at a depth of approximately 11 to 13 feet bgs. Sanitary wastewater at former AFP36 generally flowed from Buildings B, C, and D eastward, combining with sanitary wastewater from the GE Evendale Plant at the north-south oriented 18-inch RCP sanitary sewer line located just west of the buildings. This north-south running sewer line is approximately 1000 feet long and located at depths of 20 to 25 feet below ground (fbg). The two 18-inch RCP sewer lines are currently lined. The sanitary sewer enters Pumphouse P (located east of former Building D) where sanitary wastewater is pumped to the POTW sewer line east of the Facility. Sanitary sewers directly southwest and southeast of the Facility are located at depths of approximately 10 to 20 fbg.

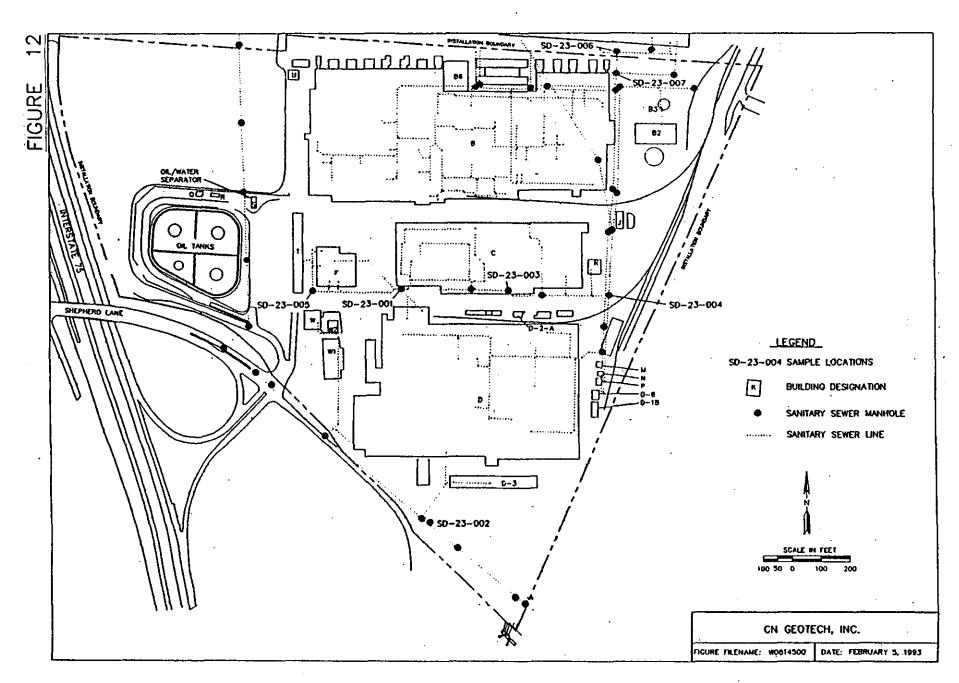
Building D was decommissioned in 1996. Buildings B and C were decommissioned in 2015. Decommissioning included the power transformer station to the west of former Building D.

The Facility sanitary sewer discharge is monitored under permit with the local POTW. In addition, sewer access by site workers is addressed under Facility health and safety



procedures and practices to mitigate human exposure to materials within the sanitary sewer.

Based on the sanitary sewer depth, inaccessibility, sewer use compliance, and facility worker safety procedures in place, SWMU-118 was not retained for further evaluation in this soil pathway evaluation.



Sewer System, IRP Site SD-23.

Screening of Detected Chemicals in Sewer Sediment - SWMU 118 GE Aviation - Evendale, Ohio

Sample ID: Sample Date:	Soil Corrective Measure Objectives (CMOs)	Soil Background Concentration	Screening Value/Action Level ¹	SD-23-001 1993	SD-23-003 1993	SD-23-005 1993
Depth (ft bgs):			USEPA Residential Soil RSLs	Sewer Sediment	Sewer Sediment	Sewer Sediment
Volatile Organic Compounds						
2-Butanone	na	na	27000	0.02		
Acetone	na	na	61000	0.1	0.017	-
Polychlorinated Biphenyls						
Aroclor 1248	11.5	na	0.23			0.623
Aroclor 1254	11.5	na	0.24	0.596	1.502	
Metals						
Aluminum	na	na	77000	na	na	na
Antimony	na	na	31	na	na	na
Arsenic	21.5	12.9	0.68	<15	27.1	<15
Barium	na	na	15000	<160	384	<160
Beryllium	na	na	160	na	na	na
Cadmium	727	0.51	71	4.8	25.4	<1.1
Chromium (Total) ⁵	na	na	120000	35.5	741	<31
Cobalt	220	6.4	23	<16	138	<16
Copper	29,495	11.8	3100	69.3	289	<27
Cyanide	442	na	23	na	na	na
Lead	na	na	400	50.5	1310	<29
Manganese	16,604	459	1800	na	na	na
Mercury	na	na	11	na	na	na
Nickel	na	na	1500	72.1	987	<33
Selenium	na	na	390	<0.7	12	<0.7
Silver	na	na	390	10.4	30.8	<1
Thallium	na	na	0.78	na	na	na
Vanadium	3662	17.4	390	<50	96.9	<50
Zinc	na	na	23000	200	1100	428

Notes:

- Results and action levels are expressed in mg/kg.
- Analytical results are from the RCRA Facility Investigation Revised Draft Report (O'Brien & Gere 1995).

'bgs' - below ground surface.

'na' - not analyzed for this constituent, no criterion or not applicable.

- < values indicate less than background levels established during the RFI
- 1) USEPA Regional Screening Level (RSL) Resident (USEPA, May 2016).
- Shaded cells indicate exceedance of the May 2016 USEPA Resident Soil Screening Level.
- 2) Residential RSL for PCBs (high risk) applied.
- 3) Soil background concentrations reported for the Cincinnati area (Ohio EPA, 2015).

^{&#}x27;--' denotes non-detection.

SWMU/AOC ID: SWMU-124 Storm Water Pump House 506

testing of the unit.

Location: Storm Water Pump House 506 is located along the east side of the facility.

Description: SWMU-124 is the sump for storm water pump house 506. The sump is an unsealed concrete

collection basin with unknown dimensions, located below grade. This unit manages wastewaters received from the Storm Water Sewer System which includes surface runoff, cooling tower non-contact blowdown, and water from some of the oil/water separators. The wastewater discharged to this pump house may contain hazardous petroleum constituents. The pump house contains a small mobile oil skimmer which removes waste oil on the surface of water in the unit, and also functions as emergency spill equipment. This unit has

been in service since the early 1940s and discharges to the Main Drainage Ditch.

RFI Background: The 1989 RCRA Facility Assessment (RFA) performed by AT Kearney, Inc. designated this

pump house as a SWMU. The RFA concluded that there is a low potential for releases to surface water due to the oil skimmer, unit discharge to the Main Drainage Ditch, and the unit's distance to Mill Creek. There is a low potential for releases to air because the unit is located inside a building and there are limited volumes of volatile constituents in waste oil. The RFA also concluded that there is an unknown potential for releases to soil and groundwater due to the unit's location below ground, time in service, unknown integrity, and an unknown release potential to subsurface gas. The RFA recommended integrity

A sediment sample was collected from Storm Water Pump House 506 to characterize

A soil boring was advanced downgradient of the pump house based on the results of the sediment sampling. A shallow groundwater monitoring well was subsequently installed to evaluate potential impacts from the Pump House 506 area. Subsurface soil and groundwater

samples were collected and analyzed for VOCs, PCBs, TPH, and inorganics.

possible samples as part of Phase I of the RCRA Facility Investigation (RFI).

RFI Results Summary:

Analytical results for the sediment sample, SE-1, indicated the presence of TPH at a concentration of 6,000 mg/kg. VOCs were not detected in the sample due to elevated detection limits.

Soil analytical results indicate the presence of 1,1-DCA (0.051~mg/kg), 1,1,1-TCA (0.01-0.28~mg/kg), TCE (0.02-0.031~mg/kg), TPH (60-140~mg/kg), arsenic (3.1-18.2~mg/kg), beryllium (0.45-0.61~mg/kg), and cobalt (2.6-2.8~mg/kg). The detected concentrations of 1,1,1-TCA, TCE, arsenic, beryllium, and cobalt were greater than the Region V Data Quality Limits (DQLs) from July 1994 for soil.

Groundwater analytical data associated with this SWMU indicated the presence of 1,1,1-TCA (8 μ g/l), TCE (18 μ g/l), lead (40.2 μ g/l), arsenic (75.4 μ l), and cobalt (27.1 μ g/l) greater than the Region V DQL for water.

CMS Soil Pathway Summary:

The results of the CMS for this SWMU indicated the soil analytical results are below the CMO for TPH (1,213 mg/kg), however, two detections of TPH are greater than the Residential RSLs [(82 mg/kg (Aromatic low)] collected from two soil boring locations [SWMU 124-MW1S SB (20-22 fbg) of 140 mg/kg and AOC K-SB1 (4-6 fbg) of 220 mg/kg.

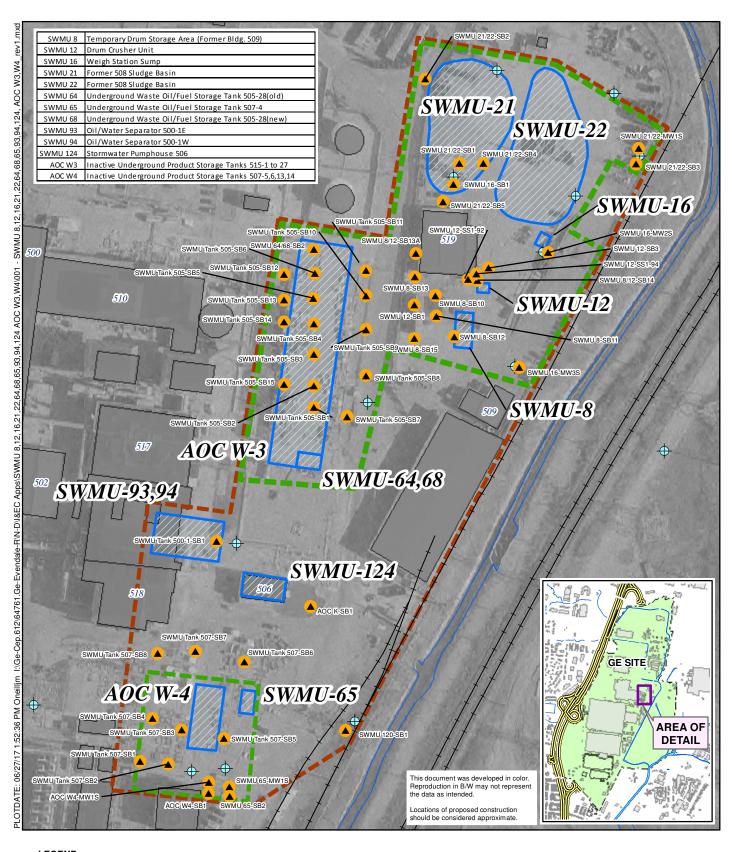
The results of the CMS for this SWMU indicated soil analytical results are below the CMO for arsenic (21.5 mg/kg) however, two detections of arsenic are greater than the Residential RSL (0.68 mg/kg) collected from the one soil boring [SWMU 124 MW1S SB (14-16 fbg) of 18.2 mg/kg and (20-22 fbg) of 3.1 mg/kg]. One of these detections is below the natural



background concentration (12.9 mg/kg) at SWMU 124 MW1S SB (20-22 fbg) of 3.1 mg/kg and the other sample is greater than the natural background concentration at SWMU 124 MW1S SB (14-16 fbg) of 18.2 mg/kg.

Exposure to COPCs at these SWMUs can be managed with restriction to industrial use of the area shown in the attached Figure.

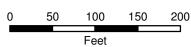




Approximate SWMU Area Existing Building Engineering Control Boundary Institutional Control Boundary Monitoring Well A RFI Soil Boring

MULTIPLE SWMUs / AOCs LOCATION MAP

GE EVENDALE, OHIO





SWMU/AOC ID: SWMU 141 (IRP Site SD-26) | Gravel Coalescing Oil/ Water Separator

Location: East of Former Building K and Former Building C.

Description: The SWMU 141 (IRP Site SD-26) is an abandoned gravel-coalescing oil/water separator of a

48-inch diameter sump that was filled with gravel and bordered on three sides by concrete curb. Water was channeled into the sump by a gently sloping concrete curb and paved area to the north. After separation from the oil, the treated water was apparently discharged to

the south into the storm drain system.

RFI Background: In 1993, during the Preliminary Assessment/ Site Inspection (PA/SI) investigations

conducted by Chem-Nuclear Geotech, Inc. (Geotech), a gravel/sediment sample was collected from the surface of the sump to assess the degree of environmental impact at the possible source area which was identified during the RFA. In addition, Earth Tech, Inc. conducted an IRP investigation in this area to assess the impact that IRP Site SD-26 may have on groundwater in the perched water-bearing unity at Former Air Force Plant 36 (AFP

36).

RFI Results Summary:

This area was investigated as part of the 1993 PA/SI investigation process. One sample (SD-26-001) was collected from the surface of this location. Subsurface soil samples were collected from a boring drilled adjacent to the south of the sump at depths of 6 feet below grade (fbg), 26 fbg and 28 fbg at this location. Samples were analyzed for VOCs and TPH. Analytical results indicated that acetone was detected at a relatively low concentration (0.019 mg/kg) in surface gravel collected in the sump, while TPH was detected at concentrations of 11,796 mg/kg in this sample. No impact was detected in the sample collected at 6 fbg. Cis-1,2-DCE, 1,1,1-TCA and TCE were detected in the soil samples at depths of 26 and 28 fbg. The source of these chlorinated compounds concentrations was believed to be related to groundwater contamination and not the abandoned separator. TPH levels inside the oil/water separator were elevated as expected; however, the soil surrounding the oil/water separator was observed to be free of impact until the water table was encountered. The absence of impact in the soil outside of the oil/water separator indicates that the structure is intact, and therefore, no further action was recommended.

Subsequently, the groundwater was sampled during the Source Area Investigation completed by Earth Tech (Earth Tech, 1999). The purpose of this investigation was to confirm that IRP Site SD-26 has not significantly impacted groundwater in the perched water bearing zone at the former AFP 36. Analytical results indicated that maximum concentrations of benzene (3.8 $\mu g/L$), ethylbenzene (5.8 $\mu g/L$), toluene (8.7 $\mu g/L$) and xylenes (25 $\mu g/L$) were detected at detections below the Federal MCL of 5 $\mu g/L$, 700 $\mu g/L$, 1,000 $\mu g/L$ and 10,000 $\mu g/L$ respectively.

The Earth Tech Site Investigation Report (September 2000) recommended No Further Action based on the following:

- 1. TPH elevated concentrations were expected in the sump of the oil/water separator; however, the shallow and deep soil sample collected at adjacent location are free of TPH contamination. It therefore, appears that the TPH concentration is restricted to the sump.
- 2. No chlorinated hydrocarbon was detected in the surface and shallow soil samples; therefore, the chlorinated hydrocarbons detected in the deep soil are results of groundwater contamination. In addition, the nearby monitoring well AF-4P, installed in shallow groundwater, was sampled and groundwater results indicated elevated concentrations of chlorinated hydrocarbons.



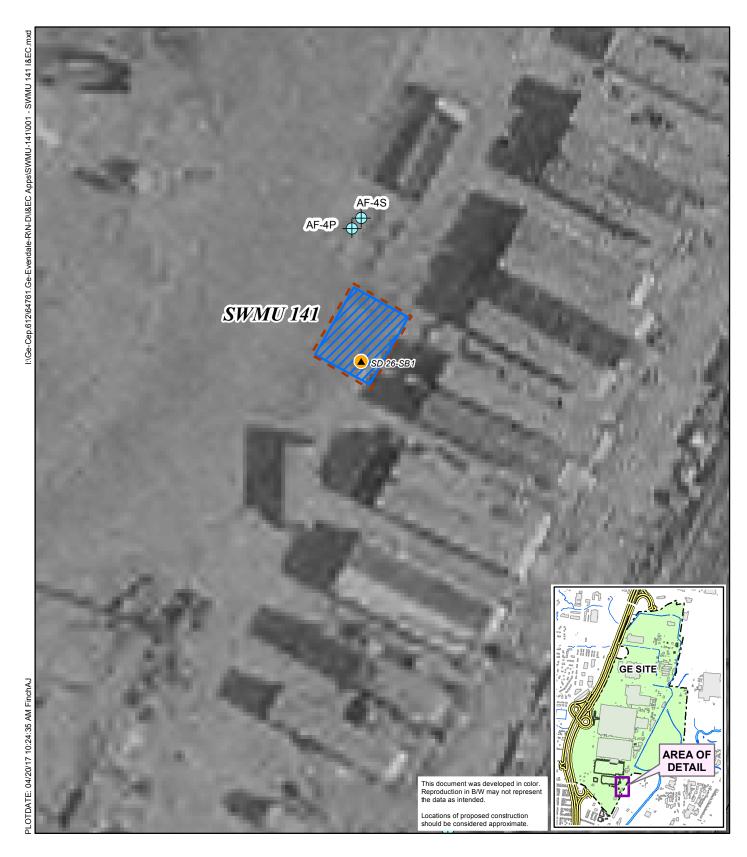
3. Groundwater samples collected during the Source Area Investigation (Earth Tech, 1999) indicated concentrations of BTEX below the acceptable Federal MCL.

CMS Soil Pathway Summary:

The results of the CMS for this SWMU indicated a soil analytical result greater than the CMO for TPH (1,213 mg/kg) for one soil sample analyzed from SD 26-SB1(0-0.5 fbg) of 11,796 mg/kg.

This result is also greater than the Residential RSLs for TPH (Aromatic low) of 82 mg/kg.

Exposure to COPCs at this SWMU can be managed with a restriction to industrial use and maintenance of a cover system in the area shown on the attached Figure.



SWMU 141/IRP SD-26 - GRAVEL COALESCING OIL/WATER SEPARATOR Existing Building Existing Building Institutional Control Boundary Monitoring Well RFI Soil Boring June 2017 SWMU 141/IRP SD-26 - GRAVEL COALESCING OIL/WATER SEPARATOR GE EVENDALE, OHIO



SWMU/AOC ID: SWMU-142 Building 800 Machine Sump

Location: Near the center of Building 800.

Description: SWMU-142 was a depression located under a milling machine near the center of Building

800. The purpose of the depression was to allow full vertical movement of a counterweight mechanism. It is possible that a cleaning solution containing chlorinated solvent-methyl chloroform entered the depression when used at this location. The depression is currently

beneath a concrete slab.

RFI Background: Three holes were cored through the concrete floor in the area immediately adjacent to the

former sump location. Shallow soil samples were collected from each hole and submitted for

laboratory analysis for VOCs, TPH, and inorganics.

RFI Results Summary:

The VOC and TPH analytical results indicate the presence of 1,1,1-TCA (13 – 140 $\mu g/kg$), methylene chloride (7 – 9 $\mu g/kg$), TCE (14 – 100 $\mu g/kg$), and TPH (5,000 – 23,000 m g/kg) in the shallow subsurface soils. These concentrations were below the Region V Data Quality Limits (DQLs) at the time of the RFI (1994). The inorganics analysis indicated the presence of beryllium (470 – 610 $\mu g/kg$), arsenic (4,300 – 6,500 $\mu g/kg$), and cobalt (9,300 – 87,400 $\mu g/kg$) greater than the Region V DQLs.

Groundwater analytical results from downgradient well GM-9S (south of SWMU-142) indicated detections of vinyl chloride, 1,1- dichloroethylene, and cis 1,2- dichloroethylene above EPA Region 5 DQLs at the time of the RFI (1994).

CMS Soil Pathway Summary:

The results of the CMS for this SWMU indicated soil analytical results for the three shallow soil samples collected are greater than the CMO for TPH (1,213 mg/kg) ranging from 5,000 to 23,000 mg/kg.

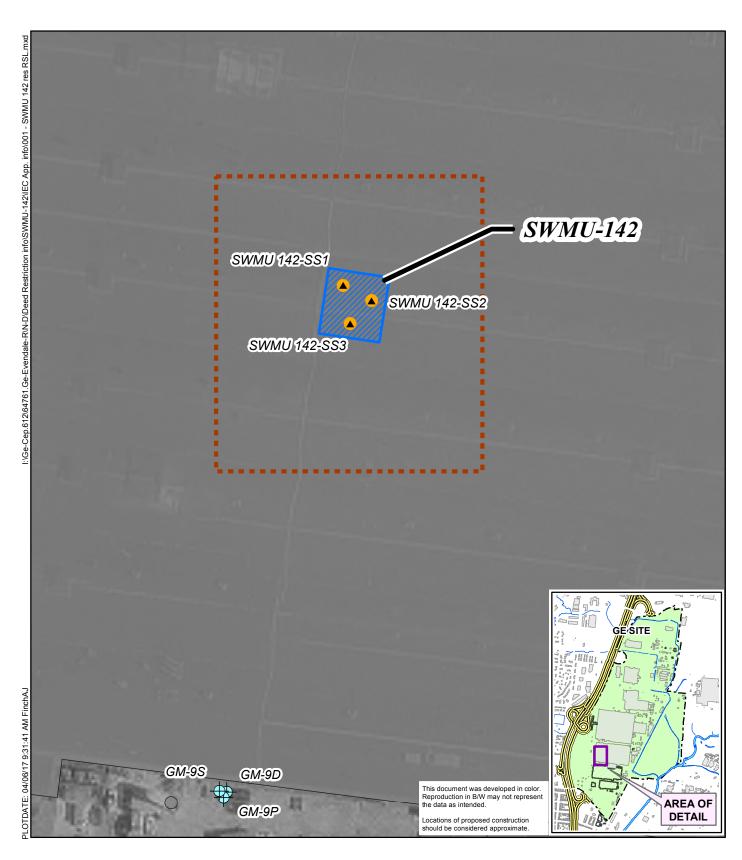
These samples also are greater than the Residential RSLS for TPH [(82 mg/kg (Aromatic low)].

The results of the CMS for this SWMU indicated soil analytical results for the three shallow soil samples collected are greater than the CMO for arsenic (21.5 mg/kg) ranging from 4.3 to 6.5 mg/kg. These detections of arsenic are also greater than the Residential RSL (0.68 mg/kg), however, these detections are below the natural background concentration (12.9 mg/kg).

In addition to arsenic, a detection of cobalt is greater than the Residential RSL (23 mg/kg) at SWMU142-SS2 (0-0.5 fbg) of 87.4 mg/kg. The cobalt detection at SWMU 142-SS2 is also greater than the natural background range (1.1-53.6 mg/kg).

Exposure to COPCs at this SWMU can be managed with a restriction to industrial use and maintenance of a cover system in the area shown on the attached Figure.

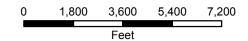






SWMU 142 - BLDG. 800 MACHINE SUMP

GE EVENDALE, OHIO





SWMU/AOC ID: AOC-A (SS-27) Building P Fuel Spill

Location: Outside of Building P.

Description: AOC-A is the site of a fuel spill that occurred outside Building P before 1970. The exact

location and quantity of spilled material has never been verified; although, facility estimates suggested the spill was possibly several thousand gallons. The spill reportedly passed through the sanitary sewage pumping station and into the sanitary sewer and into the Mill Creek interceptor. Vapors from the fuel were reportedly ignited and manhole covers were blown off on Vine Street in St. Bernard, Ohio (5 miles downstream from the GE site). Corrective measures taken after the incident included installation of explosimeters in the

sewer system and isolation of the fuel spill area from the sanitary sewer.

This area was investigated as part of the USAF IRP program to evaluate potential soil

impacts (IRP Site ID SS-27).

Background: Two soil borings were completed at AOC-A. Field screening data for soil boring SS-27-SB-01

indicated that VOCs were generally limited to the upper four feet of soil, and ground water was encountered at approximately 6.5 feet below grade. Field screening data for soil boring SS-27-SB-02 indicated the presence of VOCs to the 12-foot depth of boring, with ground

water encountered at approximately 7 feet below grade.

RFI Results Summary:

Soil analytical data indicates detected concentrations of toluene (0.013 - 0.035 mg/kg), o-xylene (0.013 mg/kg), tetrachloroethene (0.017 - 0.035 mg/kg), TCE (0.035 - 0.053 mg/kg), 1,1,1-TCA (0.007 - 0.064 mg/kg), and TPH (55 - 83 mg/kg). Detected concentrations were below the Region V Data Quality Limits (DQLs) for soil from July 1994. Analytical results were below applicable action levels; however, this location is the only area at Plant 36 that had solvent contamination about the water table.

CMS Soil Pathway Summary:

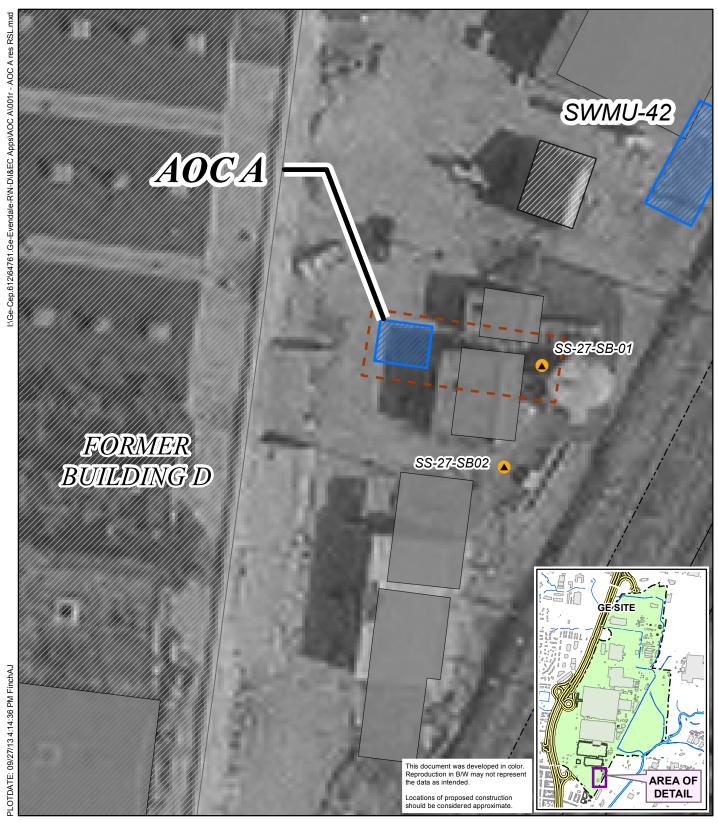
The results of the CMS for this SWMU indicated the soil analytical results are below the CMO for TPH (1,213 mg/kg), however, one detection of TPH is greater than the Residential RSL [(82 mg/kg (Aromatic low)] collected from SS-27-SB-01 (0-2 fbg) of 83 mg/kg.

VOCs are below the CMO and the Residential RSLs.

Exposure to COPCs at this SMWU can be managed with restriction to industrial use of the area shown in the attached Figure.



DRAFT FIGURE

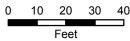


LEGEND



AOC A - BLDG. P FUEL SPILL

GE EVENDALE, OHIO







SWMU/AOC ID: AOC-I (IRP Site SS-29) and AOC D | Building B Fuel Spill No. 2

Location: Northwest Side of former Building B near the former Cell M-1 intake stack.

Description:

AOC-I (IRP SS-29) is the area of an approximately 1,000-gallon jet fuel spill along the north wall of Building B near the intake stack of test cell M-1. The spill, noted on July 23, 1977, was caused by a defective flange on a fuel line from the South Fuel Farm to Building B. Most of the spill was contained on the roofs of Building B and Cell M-1, and the remainder of the spilled fuel drained onto the gravel area around the buildings. The spill contents were reportedly diverted to oil/water separator B-1 (SWMU-101).

AOC-D is the area of an approximately 1,000-gallon jet fuel spill. The spill was caused by a break in an underground jet fuel line. The exact location and date of the spill has never been verified; however, the spill is believed to have occurred in 1972 according to the 1994 RFI Report. Corrective measures taken after the incident included removal and off-site disposal of visibly contaminated soil. It is not known if the vertical and areal extent of the spill was determined during clean-up, or if chemical analyses were performed to assess the completeness of clean-up activities.

RFI Background:

The 1989 RCRA Facility Assessment (RFA) performed by AT Kearney, Inc. designated the AOC I spill as an Area of Concern (AOC). The RFA indicated that no fuel from this spill was reported on the Main Drainage Ditch or the Mill Creek. The RFA concluded that because of the unknown integrity of oil/water separator B-1 and the associated Process Sewer Systems, fuel may have been released to the soil and shallow groundwater.

The ST-32 and ST-33 locations depicted on the attached figure represent the underground storage tanks: ST-32 a 30,000 gal oil/water storage tank and ST-33 a 30,000 gal diesel fuel storage tank. These tanks were addressed under the IRP.

RFI Results Summary:

This area was investigated as part of the USAF Installation Restoration Program (IRP) to evaluate potential subsurface impacts. Two soil borings were successfully completed in this area in 1993. Four subsurface soil samples were analyzed for TPH and VOCs. Soil analytical data indicated that concentrations of TPH (53 – 2,247 mg/kg) were detected in each of the four subsurface soil samples. No VOCs were detected in the samples. Detected TPH concentrations were greater than Ohio EPA BUSTR action levels. The investigation associated with AOC I & D did not indicate evidence of shallow impact via field screening with a phtotionization detector. Soil samples from soil borings SS-29-SB-1 and SS-SB-2 TPH were collected at depth (greater than 18 ft below grade (fbg)) and indicated detections of TPH ranging from 53 to 2,247 mg/kg. Soil samples analyzed by Earth Tech indicated concentrations of TPH were detected at a depth greater than 12 fbg:BV-DP02 (14-16 fbg at 11.6 mg/kg and 21-22 fbg at 1,353 mg/kg) and BV3-DP07 (18-20 fbg at3,473mg/kg).

An in-situ bioventing system was installed by Earth Tech in 1996 as an interim remedial action to address contamination at IRP Sites SS-29 (AOC-I), SS-28 (AOC-D), ST-32, and ST-33. In September 1999, a Tier I Evaluation was conducted in accordance with Ohio EPA BUSTR regulations to evaluate the effectiveness of the remediation activities. The Tier I Evaluation was summarized in Earth Tech's Site Investigation Report for the Assessment of Bioventing Systems (dated 9/2000) at Bioventing Site 3.

The bioventing systems evaluation indicated that TPHs and PAHs were detected in subsurface soil samples, and TPH-GRO, TPH-DRO, VOCs, and naphthalene were detected in ground water samples. Analytical data was compared to the 1997 BUSTR action levels. Four detected soil concentrations were greater than the BUSTR action levels for TPH-GRO and TPH-DRO, and one detected soil concentration was greater than the action level for benzo[a]pyrene. Ground water sample analytical data results indicated that no detected concentrations were greater than BUSTR action levels.



The Earth Tech Site Investigation Report (September 2000) recommended No Further Action based on the following:

- 1. Although shallow soil TPH and PAH detections were above BUSTR action levels, no TPH or PAHs were detected in groundwater indicating impacted soils were not leaching to groundwater.
- 2. No future plans for redevelopment of this area.

CMS Soil Pathway Summary:

The results of the CMS for this AOC indicated soil analytical results were greater than the CMO for TPH (1,213 mg/kg) for soil samples collected at two soil boring locations:

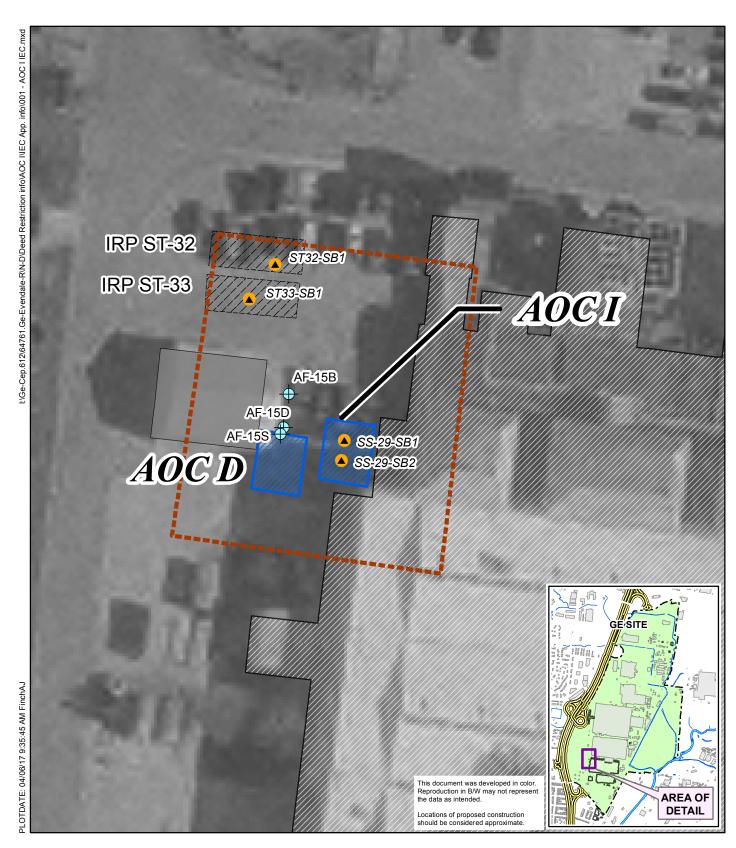
- SS-29-SB1(20-22 fbg) of 1,359 mg/kg;
- SS-29-SB2 (20-22 fbg of 2,247 mg/kg)].

The above analytical results are greater than the Residential RSLs (82 mg/kg for TPH [Aromatic low] and the following additional sample also is greater than the Residential RSL:

• SS-29-SB-1 depth 18-20 fbg of 1,066 mg/kg;

Exposure to COPCs at these AOCs can be managed with a restriction to industrial use and maintenance of a cover system in the area shown on the attached Figure.





LEGEND



USAF IRP Soil Boring

AOC D & I Building B Fuel Spill No. 2

GE EVENDALE, OHIO 0 10 20 30 40

Feet





SWMU/AOC ID: AOC-L Building 304 Fuel Spill

Location: Northeast of Building 304, adjacent to SWMU-61.

Description: AOC-L is the area of an approximately 100-gallon JP-5 jet fuel on March 7, 1979. The spilled

fuel overflowed from a portable fuel trailer and drained into the 304A basin. The jet fuel mixed with another type of fuel (Redwood) in the basin. The spill was removed from the

basin one week later.

Background: As part of the RFI program, soil borings were advanced to first encountered groundwater.

Final boring locations were selected after facility personnel were contacted to identify the actual spill location. A shallow groundwater monitoring well was installed northeast of the AOC. Subsurface soil and groundwater samples were collected and analyzed for VOCs, SVOCs, and TPH to assess possible impacts from the spill. Additionally, a surface soil sample

was collected and analyzed for VOCs and TPH.

RFI Results Summary:

Subsurface soil analytical results indicates the presence of TPH (2,700 – 3,700 mg/kg), naphthalene (3.4 – 4.7 mg/kg), and 2-methylnaphthalene (6.7 – 8.3 mg/kg). Only 2-methylnaphthalene (8.3 mg/kg) detected in subsurface soils from 12- to 14-ft below grade (fbg) greater than the Region V Data Quality Limits (DQLs) from July 1994 for soil.

Ethylbenzene (8 μ g/l) and xylene (40 μ g/l) were detected in the groundwater sample. However, these concentrations were not greater than Region V DQLs for water.

No analytical parameters were detected in the surface soil sample.

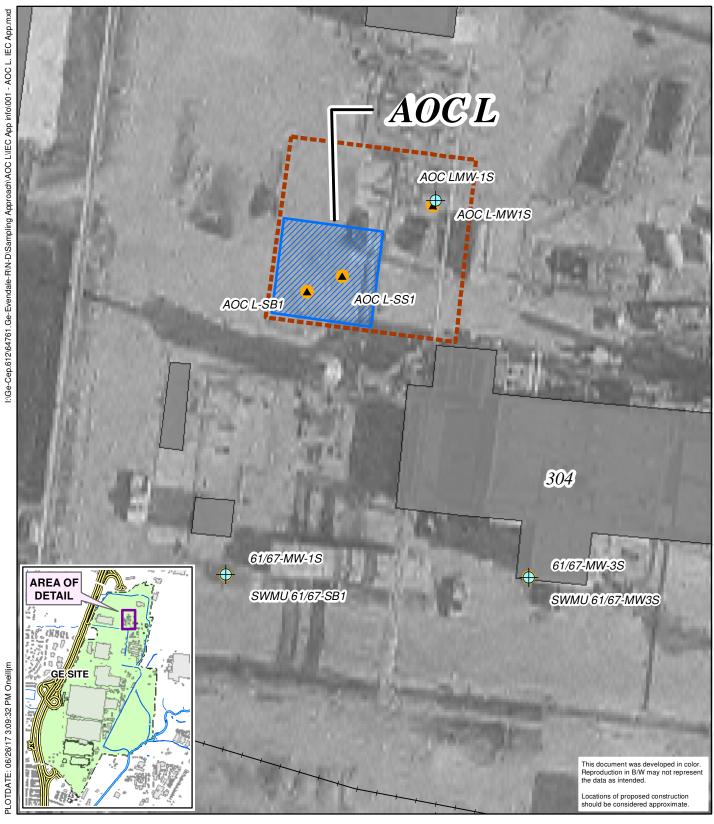
CMS Soil Pathway Summary:

The results of the CMS for this AOC indicated soil analytical results are greater than the CMO for TPH (1,213 mg/kg) and Residential RSL at one soil boring location [AOC-L SB-1 (6-8 fbg) of 3,700 mg/kg and (8-10 fbg) of 2,700 mg/kg.

The results also indicate a detection of Naphthalene at AOC L MW-1S-SB (8-10 fbg) of 4.7 mg/kg greater than the Residential RSL (3.8 mg/kg).

Exposure to COPCs at this AOC can be managed with a restriction to industrial use and maintenance of a cover system in the area shown on the attached Figure.

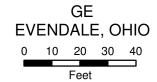




LEGEND



AOC L BLDG. 304 FUEL SPILL





SWMU/AOC ID: SWMU-62, 63 and AOC W-2 Underground Waste Oil/Fuel Storage Tank 417-2 and 417-3,

and AOC W2 (417-E M-1)

Location: Outside, near the northeast corner of Building 417.

Description: SWMU-62 (417-2) and SWMU-63 (417-3) were 15,000-gallon horizontal, steel USTs used to

hold waste fuel. The tanks were installed in 1941, and were removed in 1992. Soil

contamination was apparent during the tank excavation and so visibly impacted soils were

removed as part of the excavation. The area was filled with clean material.

AOC-W2 comprises a 2,200-gallon UST (Tank ID: 417-E M-1). Use of the tank began in 1941. The tank was reportedly cleaned with steam or high-pressure water prior to being filled with sand and abandoned in place. No integrity testing was performed prior to closure; however, the tank inventory level was constantly monitored for product control and audit purposes. No soil or groundwater sampling was performed as part of the tank closure.

Background: As part of the RFI, soil borings were completed outside of the limits of the tank excavation

area. The soil borings were completed as shallow groundwater monitoring wells (62/63-MW1S, 62/63-MW2S, 62/63-MW3S, 62/63-MW4S). Subsurface soils and groundwater samples from the borings and wells were submitted for laboratory analysis for VOCs and

TPH.

RFI Results Summary:

Matrix interferences required the dilution of some samples. Soil samples indicated the presence of 2-butanone (0.02-2.7~mg/kg), TCE (0.1~mg/kg), ethylbenzene (0.1~mg/kg), xylene (0.28~mg/kg), and TPH (85-290~mg/kg). These values are below the Region V Data Quality Limits (DQLs) established in July 1994, and the Ohio EPA BUSTR guidelines for soil.

Groundwater samples indicated the presence of 1,1,1-TCA at 6 to 11 μ g/l, TPH at 1,100 mg/l, and xylene at 14 to 22 μ g/l; however, these concentrations were below Region V DQLs. Other VOCs and inorganic compounds were detected in the groundwater samples at concentrations greater than the Region V DQLs. Parameters greater than the Region V DQLs consist of TCE (6 – 17 μ g/l), cobalt (24.9 μ g/l), and lead (47.7 μ g/l).

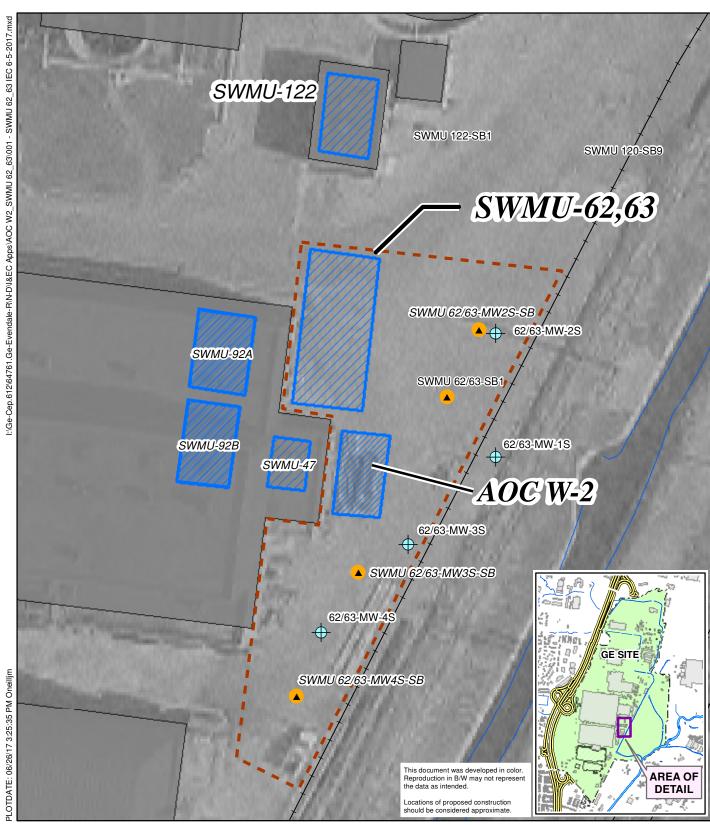
CMS Soil Pathway Summary:

The results of the CMS for these SWMUs indicate the soil analytical results are below the CMO for VOCs for the samples collected and greater than the CMO for TPH (1,213 mg/kg) for three samples at locations SWMU 62/63 -MW3S SB (4-6 fbg) of 290 mg/kg, SWMU 62/63-MW4S SB (4-6 fbg) of 85 mg/kg, and (12-14 fbg) of 250 mg/kg.

These TPH concentrations are also greater than the Residential RSL [82 mg/kg (Aromatic low)].

Exposure to COPCs at this SMWU can be managed with restriction to industrial use of the area shown in the attached Figure.





SWMU 62 and 63 - UNDERGROUND WASTE OIL/ Approximate SWMU Area FUEL STORAGE TANK 417-2 and 417-3 AOC W-2 - 417-EM-1 Institutional Control Boundary Monitoring Well RFI Soil Boring SWMU 62 and 63 - UNDERGROUND WASTE OIL/ FUEL STORAGE TANK 417-2 and 417-3 AOC W-2 - 417-EM-1 GE EVENDALE, OHIO 0 20 40 60 80

Feet





SWMU/AOC ID: SWMU-64/68; AOC-W3 Underground Waste Oil/Fuel Storage Tanks 505-1 to 28 (Old &

New Tanks)

Location: Slightly west of the Scrap Yard Area in the eastern portion of the GE site.

Description: SWMU-64 was the 20,000-gallon, steel UST with tank ID 505-28 (old). SWMU-64 was used

to hold waste oil and JP-4, and was in use from 1941 to 1985.

SWMU-68 is the 12,000-gallon double-walled fiberglass UST with tank ID 505-28 (new).

SWMU-68 is used to hold waste fuel and began active operation in 1985.

AOC-W3 consisted of the inactive 20,000-gallon USTs (tank IDs 505-1 to 505-27) located in the eastern portion of the GE site. Tank operations reportedly (RFI 1994) began in 1941. Many of the underground tanks located here were steam or high-pressure water cleaned, filled with sand or concrete and abandoned in place. Integrity testing was not performed on the USTs prior to closure; however, tank inventory levels were closely monitored while the tanks were active. No soil or groundwater sampling was performed as part of the UST

closures.

RFI Background: Seventeen soil borings were completed at these SWMUs and AOC with subsurface soils

collected and submitted for laboratory analysis. The downgradient boring (SWMU 64/68-SB1) was developed into a shallow groundwater monitoring well (64/68-MW1S). A groundwater sample from the well was collected and submitted for analysis. The soil and

water samples were analyzed for TPH and VOCs.

RFI Results Summary:

Acetone (0.18 mg/kg), ethylbenzene (0.056 – 2.8 mg/kg), 2-butanone (1.7 – 2.1 mg/kg), and xylene (3.5 – 5.8 mg/kg), and TPH (63 – 9,100 mg/kg) were detected in soil samples. TPH concentrations were greater than the Region V Data Quality Limits (DQLs) established in July 1994.

Concentrations of chloromethane (66 μ g/l) and 1,1-dichloroethane (140 μ g/l) were detected in the groundwater sample. Analytical results were below BUSTR and Region V DOLs.

CMS Soil Pathway Summary:

The results of the CMS for this AOC indicated soil analytical results are below the CMOs for VOCs and greater than the CMO for TPH (1,213 mg/kg) at three soil boring locations [505-SB11(12-14 fbg of 9,100 mg/kg), (505-SB-13 (16-18 fbg of 1,500 mg/kg) and 505-SB-14(16-18 fbg of 1,900 mg/kg)].

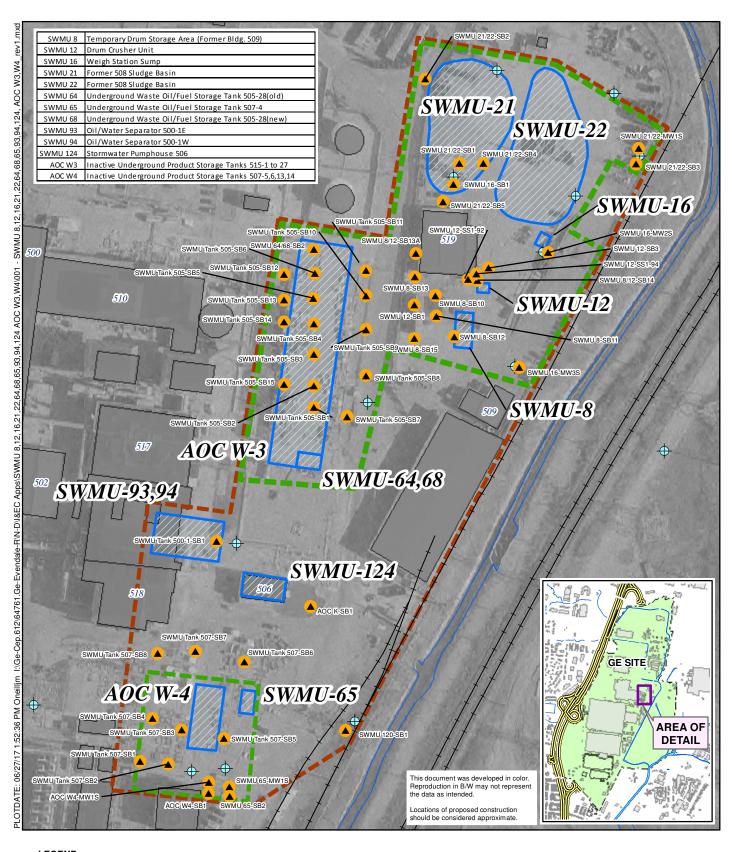
These TPH detections listed above and the following are greater than the Residential RSLs for TPH [82 mg/kg (Aromatic Low)]:

- SWMU 64/68-SB1 (0-2 fbg) of 140 mg/kg, and (16-18) fbg of 170 mg/kg;
- SWMU Tank 505-SB1 (16-18 fbg) of 110 mg/kg and (14-16 fbg) of 100 mg/kg;
- SWMU Tank 505-SB2 (14-16 fbg) of 370 mg/kg;
- SWMU Tank 505-SB3 (18-20 fbg) of 140 mg/kg;
- SWMU Tank 505-SB4 (12-14 fbg) of 98 mg/kg;
- SWMU Tank 505-SB5 (12-14 fbg) of 740 mg/kg and (16-18 fbg) of 350 mg/kg;
- SWMU Tank 505-SB6 (10-12 fbg) of 760 mg/kg and (14-16 fbg) of 1,000 mg/kg;
- SWMU Tank 505-SB9 (8-10 fbg) of 120 mg/kg;
- SWMU Tank 505-SB10 (2-4 fbg) of 210 mg/kg;
- SWMU Tank 505-SB12 (6-8 fbg) of 110mg/kg and (18-20 fbg) of 380 mg/kg;
- SWMU Tank 505-SB14 (16-18 fbg) of 280 mg/kg; and
- SWMU Tank 505-SB15 (16-18 fbg) of 110 mg/kg and (18-20 fbg) of 820 mg/kg.



Exposure to COPCs at this SWMU can be managed with a restriction to industrial use and maintenance of a cover system in the area shown on the attached Figure.

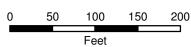




Approximate SWMU Area Existing Building Engineering Control Boundary Institutional Control Boundary Monitoring Well A RFI Soil Boring

MULTIPLE SWMUs / AOCs LOCATION MAP

GE EVENDALE, OHIO





SWMU/AOC ID: AOC-W4/SWMU 65 Underground Storage Tank 507-1 to 16.

Location: South of the Central Underground Tank (SWMU 65/ AOC-W4).

Description: AOC-W4 is the area of the Inactive Product Underground Storage Tanks (UST) 507-5,6,13

and 14. It includes underground tanks within Tank Farm 507. These USTs including 507-4 (SWMU 65) were used to store waste and/or surplus oil and fuels. The steel Tank 507-4 was put into service from 1941 to 1982, with 20,000 gallons of capacity. Several former USTs were steamed or high-pressure water cleaned and filled with sand before abandonment, and no soil or groundwater sampling was performed as part of closure. Although no integral testing of these unit was performed prior to closure, these USTs were

monitored constantly for inventory and audit purposes required for product control.

RFI Background:

The 1994 RCRA Facility investigation (RFI) performed by OBG indicates that previous RCRA Facility Assessment (RFA) suggested further actions to areas of SWMU 65 and AOC-W4; though, no evidence of known release at the time of investigation. To characterize the subsurface conditions and assess the extent of residual impacts soil borings were installed and sampled at different depth of the areas of SWMU 65 and AOC-W4. Groundwater sampling was also completed in all newly installed monitoring wells to evaluate the groundwater quality related to potential source areas, and to identify impacts resulting from upgradient flow onto the site or potential migration of contaminants to on- or off-site downgradient areas.

RFI Results Summary:

The SWMU 65 area was investigated as part of the 1994 RFI process to evaluate potential subsurface impacts. One soil boring was successfully completed in this area in 1992. Two subsurface soil samples were analyzed for TPH and VOCs. Eight soil borings were also completed in 1994 as well as one monitoring well (65-MW-1S). Soil and groundwater samples were collected and analyzed for VOCs and TPH. Soil analytical data for SWMU 65 indicated concentrations of acetone (0.092 to 0.17 mg/kg) and toluene ranging from 0.005 to 0.015 mg/kg detected in shallow subsurface soil. A review of groundwater data for this area indicated no concentrations of VOCs or TPH detected in groundwater above method detection limits.

The AOC W4 area was investigated through the installation of two soil borings and four subsurface soil samples were collected and analyzed for VOCs and TPH. Shallow monitoring well AOCW4-MW-1S was installed to assess the shallow groundwater quality. Soil analytical results for the AOC-W4 indicate concentrations of TPH ranging from 130 to 8,000 mg/kg, acetone with detections at 0.012 to 0.015 mg/kg, benzene with concentration of 0.008 mg/kg, 2-butanone at 0.014 mg/kg and toluene at 0.019 mg/kg. Dilution of the samples was completed to compensate for the TPH and resulted in elevated detection limits for VOCs which were greater than the BUSTR and Region V DQLs for July 1994.

CMS Soil Pathway Summary:

The results of the CMS for this SWMU/AOC indicated soil analytical results are below the CMOs for VOCs and above the CMO for TPH (1,213 mg/kg) at four soil boring locations [AOC W4-SB2(14-16 fbg) of 2,400 mg/kg and (18-20 fbg) of 6,500 mg/kg, UST 507-SB3 (14-16 fbg) of 6,400 mg/kg, UST 507-SB4 (18-20 fbg) of 2,600 mg/kg and UST507-SB5 (14-16 fbg) of 8,000 mg/kg].

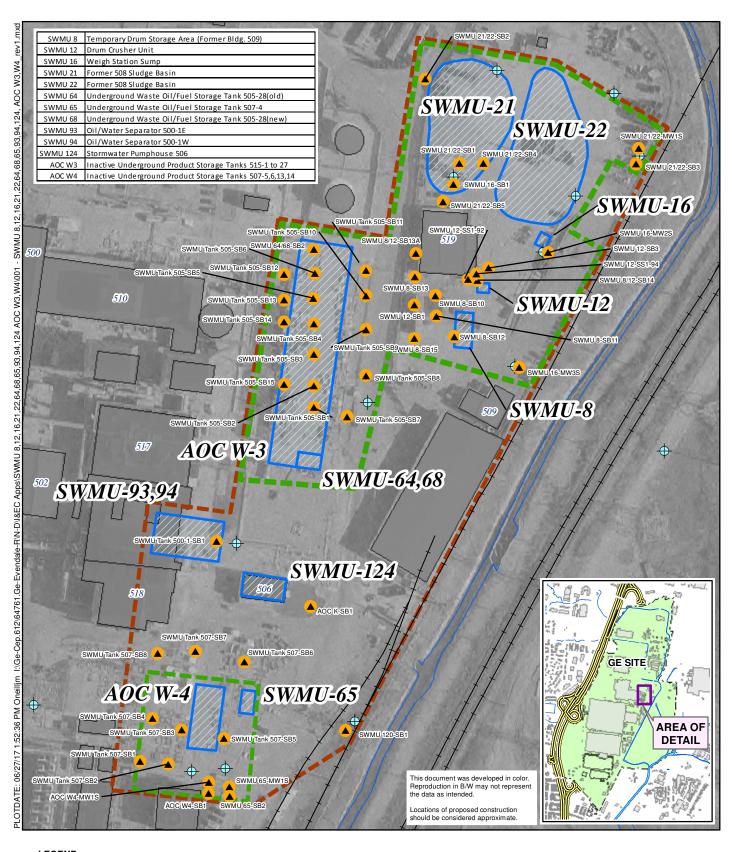
In addition to those samples above, these locations are also greater than the Residential RSLs [82 mg/kg (Aromatic Low)] as follows:

• AOC W4-SB1 (14-16 fbg) of 130 mg/kg;



- UST 507-SB3 (16-18 fbg) of 1,200 mg/kg;
- UST 507-SB4 (14-16 fbg) of 1,200 mg/kg; and
- UST 507-SB5 (20-22 fbg) of 900 mg/kg.

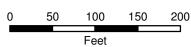
Exposure to COPCs at this SWMU can be managed with a restriction to industrial use and maintenance of a cover system in the area shown on the attached Figure.



Approximate SWMU Area Existing Building Engineering Control Boundary Institutional Control Boundary Monitoring Well A RFI Soil Boring

MULTIPLE SWMUs / AOCs LOCATION MAP

GE EVENDALE, OHIO





SWMU/AOC ID: SWMU-72 (IRP Site ST-14) and AOC W10 (IRP Site ST 14-18) Waste Fuel Collection Tank D-

1 and Inactive Underground Product Storage Tanks D-1 to D-5

Location: The northern most tank formerly located at the tank farm west of the northwest corner of

Building D and former tank farm located west of the northwest corner of Building D.

Description: SWMU-72 (Tank D-1) was the site of a former 20,000-gallon steel UST that was used to manage waste fuel from spills in Building D. The UST received waste fuel via the oil separator sewer system. Waste fuel was ultimately used as a fuel for the boilers. The UST

was installed in 1952, abandoned in 1968 and removed in 1987.

This storage tank site was investigated as part of the USAF IRP program to evaluate potential soil impacts, and recommend activities necessary for closure, if any. In 1987, ST-14 was removed as part of the USAF IRP. Analytical soil sample data obtained during tank excavations indicated that either contamination may exist below the tank excavations or that the data was suspect because of quality assurance problems. SWMU-72 is also a part of AOC W10.

AOC W10 comprises the area of five steel USTs (GE Site designations D-1 through D-5), each with a capacity of 20,000-gallons. The tanks were installed in 1952, but the start-up dates are unknown. The USTs reportedly contained fuel until they were abandoned in 1968 and removed in 1987.

The tanks were reportedly cleaned with steam or high-pressure water prior to being filled with sand and abandoned in place in 1968. No integrity testing was performed prior to closure; however, tank inventory levels were monitored for product control and audit purposes. No soil or groundwater sampling was performed as part of the tank closures.

The abandoned tanks were removed in 1987 under interim measures as identified in the RCRA permit for the Site.

RFI Background:

During the SWMU-72 tank removal, a single borehole (ST14-SB01) was drilled in the center of the tank excavation, and the collected soils were sampled continuously until groundwater was reached.

The AOC W10 storage tank site was investigated as part of the USAF IRP program to evaluate potential soil impacts, and recommend activities necessary for closure, if any. The tanks were removed from the ground in 1987 as part of the IRP. A single borehole was drilled in the center of each tank excavation (ST14-SB01, ST15-SB01, ST16-SB01, ST17-SB01, ST18-SB01), and the collected soils were sampled continuously until groundwater was reached.

Monitoring well AF-10P was installed north of SWMU-72 where the depth to water is approximately 20 feet.

RFI Results Summary:

The analytical results from the soil boring samples indicate the presence of TPH at concentrations ranging from 21 mg/kg to 8,029 mg/kg. TPH concentrations were greater than BUSTR action levels (1994). Continual sampling and the associated PID readings indicate impacts are generally present from approximately 7 feet to the bottom of the borehole (approximately 20 fbg). The soil samples were also analyzed for volatile organic compounds (VOCs). The VOCs: 1,1,2-trichloroethane, 1,1,2,2-tetrachloroethane and chlorobenzene, which were detected at low concentrations during previous investigations, were not detected in the samples collected during the RFI investigation.

The analytical data from the soil boring samples indicates the presence of TPH at the AOC W10 area. TPH was detected in at 10 to 12 feet below grade (fbg) in ST16-SB01 through ST18-SB01 at concentrations ranging from 68 mg/kg to 306 mg/kg. TPH was also detected



in the same borings at 12 to 14 fbg at samples between 371 mg/kg and 4,887 mg/kg. Soil samples from ST15-SB01 (12-14 fbg and 14-16 fbg) had TPH detections of 21 mg/kg and 738 mg/kg, respectively.

TPH was also detected in ST14-SB01 at SWMU-72 at depths between 14 and 22 fbg, ranging from 1,448 mg/kg to 8,029 mg/kg.

CMS Soil Pathway Summary:

The results of the CMS for this SWMU/AOC indicated soil analytical results greater than the CMO for TPH (1,213 mg/kg) for five samples collected from the following three soil borings:

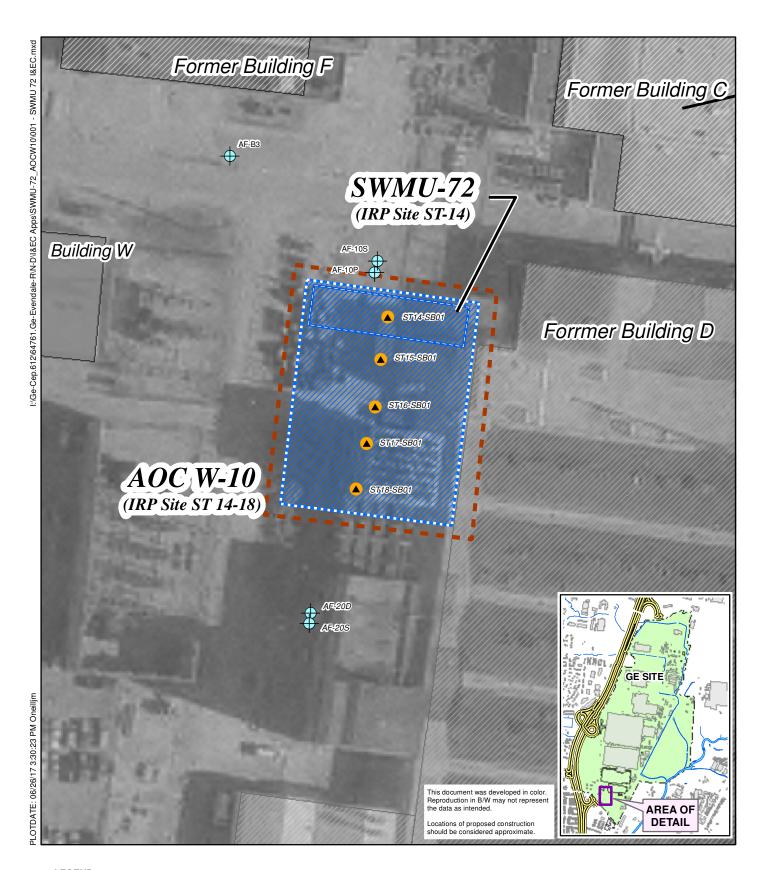
- ST14-SB01 (14-16 fbg) of 1,531 mg/kg, (16-18 fbg) of 1,448 mg/kg, and (20-22 fbg) of 8,029 mg/kg);
- ST16-SB01 (12-14 fbg) of 2,750 mg/kg; and
- ST18-SB01 (12-14 fbg) of 4,887 mg/kg.

In addition to the above samples, four soil samples exhibited TPH concentrations greater than the Residential RSLs [82 mg/kg for TPH (Aromatic Low)] as follows:

- ST15-SB01 (14-16 fbg) of 738 mg/kg;
- ST17-SB01 (10-12 fbg) of 306 mg/kg and (12-14 fbg) of 371 mg/kg; and
- ST18-SB01 (10-12 fbg) of 136 mg/kg.

Exposure to COPCs at this SWMU/AOC can be managed with a restriction to industrial use and maintenance of a cover system in the area shown on the attached Figure.





Approximate SWMU Area Existing Building Institutional Control Boundary Monitoring Well RFI Soil Boring

SWMU 72 - WASTE FUEL COLLECTION TANK D-1 and AOC W10 USTs D-1 to D-5

GE EVENDALE, OHIO 25 50 75 100 Feet



SWMU/AOC ID: AOC-LD Building 700 South Loading Dock

Location: South loading dock near the center of the south side of Building 700.

Description: AOC-LD is a loading dock area that historical information suggests was used for solvent

unloading. The dock contains a trench drain system to collect storm water runoff that is then

discharged to the storm sewer.

RFI Background: A soil vapor survey was conducted at this location to evaluate the areal distribution of

subsurface VOCs. The data obtained from the survey was used to select soil boring and monitoring well locations. Eight soil borings were completed and three shallow ground water monitoring wells were installed near this area. Subsurface soil and ground water

samples were collected and submitted for laboratory analysis for VOCs and TPH.

RFI Results Summary:

The 1994 RCRA Facility Investigation (RFI) Work Plan reported subsurface soil analytical data indicating the presence of TCA, TCE, acetone, and methylene chloride in this area at concentrations ranging from 0.016 to 9.2 mg/kg. Groundwater analytical data indicated the presence of TPHs (32 mg/l), TCA (10,000 μ g/l), TCE (3,600 μ g/l), and 1,1-DCE (700 μ g/l). Subsequently six additional soil borings, and two additional monitoring wells were installed to evaluate the extent of groundwater impact in Phase II of the RFI.

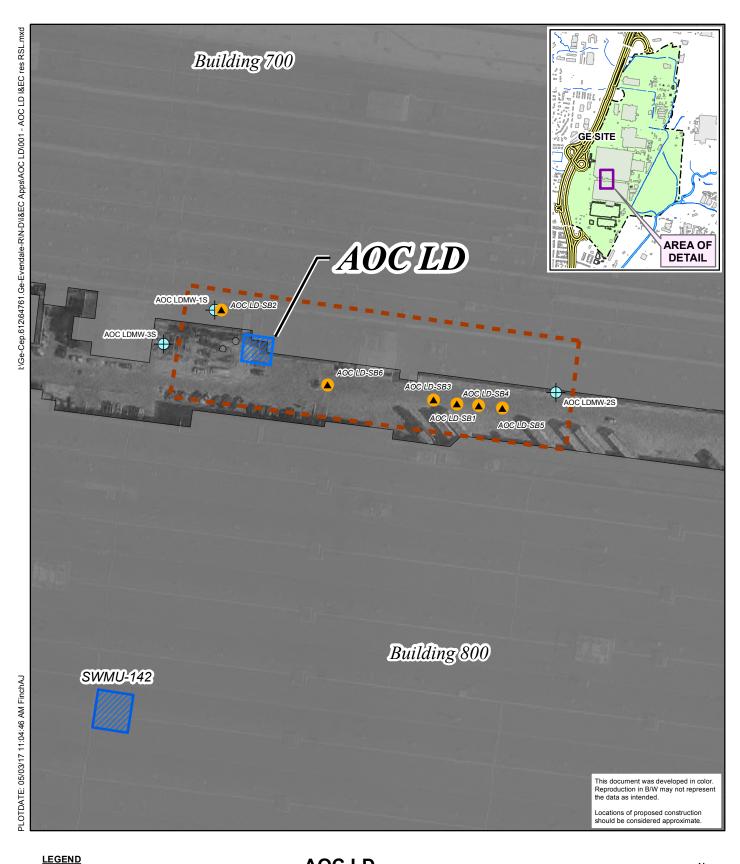
The RFI Report indicates that concentrations of 1,1,1-TCA (0.06-10 mg/kg), TCE (0.09-9.6 mg/kg), PCE (0.06 mg/kg), and TPH (32 mg/kg) were detected in subsurface soil analytical data. None of the detected analytes were greater than the Region V Data Quality Limits (DQLs) from July 1994 for soil. Groundwater analytical data indicates the presence of 1,1,1-TCA (220-10,000 µg/l), TCE (73-600 µg/l), 1,1-DCE (6-150 µg/l), 1,1-DCA (56-71 µg/l), vinyl acetate (13-17 µg/l), 1,2-DCA (12 µg/l), and 1,1,2-TCA (6 µg/l). Results for 1,1,1-TCA, TCE, 1,1-DCE, 1,2-DCA, and 1,1,2-TCA were greater than Region V DQLs for water.

CMS Soil Pathway Summary:

The results of the CMS for this AOC indicated soil analytical results are below the CMO for the majority of VOCs, however, six detections of TCE are greater than the Residential RSL (0.91 mg/kg) collected from four soil borings [AOC LD SB-1 (10-12 fbg) of 2.8 mg/kg, and (12-14 fbg) of 4.3 mg/kg, AOC LD-SB2 (12-14 fbg) of 9.2 mg/kg and (14-16 fbg) of 4.2 mg/kg, AOC LD-SB4 (10-12 fbg) of 1.7 mg/kg and AOC LD-MW-2S (16-18 fbg) of 9.6 mg/kg].

Exposure to COPCs at this AOC can be managed with restriction to industrial use of the area shown in the attached Figure.

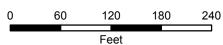




Approximate AOC Area Existing Building Institutional Control Boundary Monitoring Well RFI Soil Boring

AOC LD -BLDG. 700 SOUTH LOADING DOCK

GE EVENDALE, OHIO







SWMU/AOC ID: AOC-PST | TCE/TCA Product Storage Tanks

Location: Concrete containment area located near the center of the north side of Building 700.

Description: AOC-PST was the concrete containment area enclosing two aboveground storage tanks

(AST) used for the storage of solvents (TCE and TCA) and two ASTs used for storage of hydraulic oil. Truck unloading facilities are provided adjacent to the tank areas, and runoff from the AOC was directed to an adjacent storm sewer. Spills or leaks were isolated from the storm sewer by valves and are returned to an ultra filtration system from Building 700.

RFI Background: A soil vapor survey was conducted at this location to evaluate the areal distribution of

subsurface VOCs. The data obtained from the survey was used to select soil boring and monitoring well locations. Nine soil borings (AOCPST-SB-1 to AOCPST-SB-9) were completed, and three shallow ground water monitoring wells (AOCPST-MW-1S, AOCPST-AOCMW-2S, and AOCPST-MW-3S) were installed in the area. Subsurface soil and ground

water samples were collected and analyzed for VOCs and TPH.

RFI Investigation Summary:

Detected concentrations of VOCs in the subsurface soil consisted of acetone (2.4 mg/kg), 1,1,1-TCA (1.1 – 61 mg/kg), and TCE (0.07 – 25 mg/kg). The samples from soil boring AOCPST SB-2 were greater than the Region V Data Quality Limit (DQL) from July 1994 of 14 mg/kg for TCE in soil.

Groundwater analytical results indicated the presence of 1,1,1-TCA (120 – 11,000 μ g/l), TCE (58 – 2,400 μ g/l), PCE (6 – 21 μ g/l), 1,2-DCE (6 – 9 μ g/l), and acetone (15 μ g/l). Concentrations of PCE, TCE and 1,1,1-TCA were greater than Region V DQLs in the groundwater samples.

CMS Soil Pathway Summary:

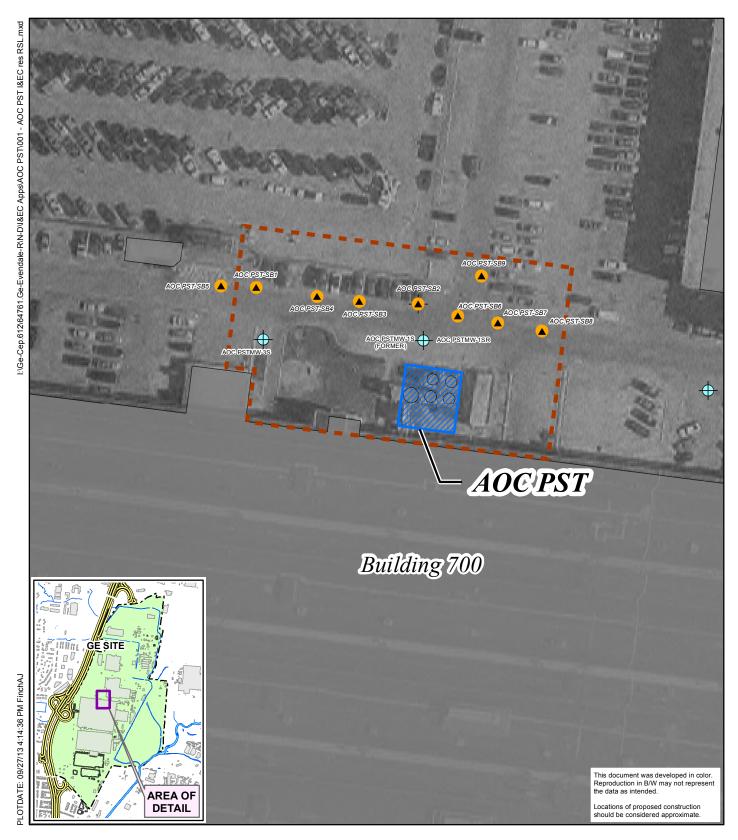
The results of the CMS for this AOC indicated soil analytical results for VOCs are below the CMOs, however, 15 detections of TCE are greater than the Residential RSL (0.91 mg/kg) as follows:

- AOC PST-SB1 (8-10 fbg) of 6.6 mg/kg and (12-14 fbg) of 6.2 mg/kg;
- AOC PST-SB2 (10-12 fbg) of 14 mg/kg and (14-16 fbg) of 25 mg/kg;
- AOC PST-SB3 (12-14 fbg) of 6.8 mg/kg and (14-16 fbg) of 6.4 mg/kg;
- AOC PST-SB4 (10-12 fbg) of 0.95 mg/kg;
- AOC PST-SB6 (12-14 fbg) of 13 mg/kg and (14-16 fbg) of 10 mg/kg;
- AOC PST SB7 (4-6 fbg) of 1.4 mg/kg and (12-14 fbg) of 3.9 mg/kg;
- AOC PST-SB8 (10-12 fbg) of 5.5 mg/kg and (12-14 fbg) of 1.8 mg/kg; and
- AOC PST-SB9 (8-10 fbg) of 7.8 mg/kg and (10-12 fbg) of 8 mg/kg.

Exposure to COPCs at this AOC can be managed with restriction to industrial use of the area shown in the attached Figure.



DRAFT FIGURE



Approximate Area of RFI Investigation Existing Building Institutional Control Boundary Monitoring Well

RFI Soil Boring

LEGEND

AOC PST - TCE/TCA PRODUCT STORAGE TANKS

